

# F A A   S T R A T E G I C   P L A N



June 2000



# FAA Strategic Plan



## OVERVIEW

Mission	SAFETY	SECURITY	SYSTEM EFFICIENCY
Goals	<i>By 2007, reduce U.S. aviation fatal accident rates by 80 percent from 1996 levels.</i>	<i>Prevent security incidents in the aviation system.</i>	<i>Provide an aerospace transportation system that meets the needs of users and is efficient in the application of FAA and aerospace resources.</i>
Strategies	Accident prevention Safety information sharing and analysis Certification and Surveillance	New security baseline Information security	Free flight NAS modernization Systems integration
Measures	Fatal Air Carrier Accident Rate ▼ Fatal General Aviation Accidents ▼ Aircraft Accident Rate ▼ Occupant Risk ▼	Detection ▲ Airport Security ▲ Airway Facility Risk ▼	Flexibility ▲ Access ▲ Delays ▼
Enabling Goals	People: Reform: Environment: Global Leadership:	The Model Work Environment The Framework Our Responsibility Commitment to Worldwide Improvements	

## Cross-Cutting Strategies



## EXECUTIVE SUMMARY

In the fall of 1997, the newly appointed FAA Administrator and her senior management team completed work on the goals that will carry the FAA and aerospace into the new millennium. The 1998 FAA Strategic Plan set out these goals, areas for strategic focus, projects to implement them, and outcome performance goals and measures.

The Strategic Plan mission, goals, and strategies (focus areas) established in 1998 remain unchanged. This edition of the Strategic Plan document adds a discussion of the aerospace environment under multiple possible futures and describes current outcome performance goals for the next 5 years and current projects to implement this plan.

**The Strategic Plan is focused around three mission goals: safety, security, and system efficiency.** These aerospace goals stem directly from FAA's legal charter and support the Department of Transportation's (DOT) 1998 and 2000 Strategic Plans. This plan includes strategies and outcome performance measures for each goal.

### **MISSION GOAL: SAFETY.**

**By 2007, reduce U.S. aviation fatal accident rates by 80 percent from 1996 levels.**

#### **Performance Goals (Measures of Success):**

- **Fatal Air Carrier Accident Rate:** By 2007, reduce the U.S. commercial air carrier fatal accident rate per million hours flown by 80 percent.
- **General Aviation Fatal Accidents:** By 2007, reduce U.S. general aviation fatal accidents to 350 per year.
- **Overall Aircraft Accident Rate:** Reduce the rate per million flight hours.
- **Occupant Risk:** Increase the probability that a passenger or flight crew member will survive a typical air carrier flight.

### **MISSION GOAL: SECURITY.**

**Prevent security incidents in the aviation system.**

#### **Performance Goals (Measures of Success):**

- **Explosive Device and Weapons Detection:** Improve the ability to detect improvised explosive devices (through use of simulants) and weapons that may be brought aboard aircraft
- **Airport Security:** Prevent unauthorized access to aircraft and improve security at airports by a specified\* percentage from a 1999 baseline index derived from assessments and tests.
- **Airway Facility Risk:** Increase the number of FAA facilities fully accredited as meeting security standards to a specified\* percent.

*Specified improvements and baselines are protected under C.F.R. Part 191.*



**MISSION GOAL: SYSTEM EFFICIENCY.** Provide an aerospace transportation system that meets the needs of users and is efficient in the application of FAA and aerospace resources.

**Performance Goals (Measures of Success):**

- **System Availability:** Increase the percentage of time a typical major facility or service is available to users of the National Airspace System.
- **System Delays:** Reduce the rate of aviation system delays, and especially the volume and equipment delays over which FAA has more direct control, from a 1992-1996 baseline.

For each of the three mission goals, FAA has established a number of **strategies (focus areas)** and supporting projects that will contribute to achieving the goals. These are presented in much more detail in the **FAA Strategic Plan Achievement Supplement**.

**SAFETY – Strategies (Focus Areas):**

- **Accident Prevention:** Based on detailed analysis of the recurrent causes of accidents, prevent accidents before they happen through appropriate, targeted, systematic interventions in the aviation system.
- **Safety Information Sharing and Analysis:** Develop partnerships with the aviation community to share data and information supporting safe, secure aviation.
- **Certification and Surveillance:** Develop new approaches to working with others on certification, surveillance, and inspection and targeting FAA resources where they will do the most good.

**SECURITY – Strategies (Focus Areas):**

- **New Security Baseline:** Continue to improve the baseline security system for civil aviation by establishing a solid baseline, then addressing vulnerabilities that remain.
- **Information Security:** Develop a systematic information security architecture that describes the future National Airspace System (NAS) information security system FAA will build toward.

**SYSTEM EFFICIENCY – Strategies (Focus Areas):**

- **Free Flight:** Within safety and environmental considerations, work toward giving airspace users the opportunity to fly in a way that gives them the most benefit as they define it.
- **NAS Modernization:** Using the NAS Architecture as the guideline, continually refine and update the NAS to achieve efficient aerospace systems and operations.
- **Systems Integration:** Integrate airport and commercial space requirements into NAS planning and architecture.



There are also four **enabling goals** in this plan which are critical to accomplishing the FAA's mission. These enabling goals and the strategies (focus areas) supporting them cut across all three of the mission goals.

## PEOPLE: THE FOUNDATION OF ACCOMPLISHMENT

Provide a model work environment supporting the productive, diverse, and highly skilled work force needed to carry out the FAA mission into the 21st century. To accomplish this, FAA will focus on:

- *Intellectual Capital*
- *Managing the Diverse Work Force*
- *Quality of Work Life*

## REFORM: THE FRAMEWORK FOR ACCOMPLISHMENT

Fundamentally change the way the FAA operates by implementing personnel and acquisition reform and pursuing financial reform. FAA will focus on:

- *Acquisition Reform*
- *Personnel Reform*
- *Financial Reform*

## THE ENVIRONMENT: OUR RESPONSIBILITY

Address what may represent the single greatest challenge to the continued growth and prosperity of civil aerospace as we enter the 21st century, focusing on:

- *Understanding Aerospace Environmental Impacts*
- *Reducing Aerospace Environmental Impacts*
- *Quantify And Mitigate Environmental Impacts Of FAA Activities*

## GLOBAL LEADERSHIP: COMMITMENT TO WORLDWIDE IMPROVEMENTS

Improve safety, security, and system efficiency globally through:

- *International Safety Oversight*
- *Global Safety Action Plan*
- *Global Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) Development And Implementation*
- *International Regulatory Harmonization*



## FAA Strategic Plan



In addition to the mission goals and the supporting enabling goals, FAA has identified the following **corporate (cross-cutting) strategies** as the most fruitful tools in the implementation of the plan.

### Cross-Cutting Strategies Providing Continuous Improvement:

- **Partnership.** Mission goals must be achieved through many kinds of partnership with customers and stakeholders. Clearly, partnership with the transportation community is the only way to achieve the mission-based goals in this plan. Just as important, FAA must work in close partnership with its employees and their unions. FAA must also address employee interests as expressed by the employee associations.
- **Communication.** Communication must be two way, listening and speaking. FAA will communicate with external customers and partners, employees, and unions.
- **Risk Management.** FAA must target regulations and resources where they do the most good. FAA will use its newly developed risk management policy and other tools to target resources where they will do the most good.
- **Research, Engineering, Development, and Acquisition.** FAA will take full advantage of its new acquisition capability to support research, engineering, and development as a major strategy to develop and field new technologies that help FAA achieve its mission and meet customer needs.
- **Rapid Deployment of Existing Technology.** FAA must not only research, develop, and acquire new technology, but it must move quickly to deploy both technology it has developed and technology from other sources, including commercial-off-the-shelf (COTS) and non-developmental item (NDI) systems.



F A A S T R A T E G I C P L A N



June 2000



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## Introduction

*The Federal Aviation Administration (FAA)* consists of nearly 50,000 people dedicated to improving the safety, security, and efficiency of aviation and commercial space transportation in a manner compatible with the environment. The FAA, however, is only a part of the worldwide aerospace community. The FAA leads, influences, guides, and encourages more than it operates and regulates. Safe, secure, efficient aerospace transportation requires close cooperation among all parts of aerospace and transportation, other Federal agencies, and the traveling and shipping public. This plan, then, focuses on FAA activities, but also sets direction, not just for FAA, but for the national air and space community in a global transportation environment.

*FAA's key aviation functions* under Title 49, United States Code are to:

- Regulate and encourage aviation safety and security;
- Develop, operate, and maintain a safe, secure, and efficient national air traffic management system;
- Collaborate in developing a safe, secure, efficient worldwide civil aviation system;
- Regulate air commerce to fulfill the requirements of national defense;
- Assist in development of airports; and
- Help mitigate adverse environmental impacts of aviation.

*FAA commercial space functions* specified in the Commercial Space Launch Act of 1984 are to:

- Protect public health and safety, safety of property, and U.S. foreign policy and national security interests;
- Ensure compliance with international obligations of the United States: and
- Encourage, promote, and facilitate the U.S. commercial space transportation industry.

*The ultimate customers* of all aerospace are passengers and shippers. The FAA also views the transportation community as its customers and partners. That includes the B-747 mechanic and the helicopter pilot and nurse rushing an injured child to the hospital. Airlines, general aviation and commercial pilots, commercial space launch companies and site licensees, manufacturers, airports, and communities seeking noise relief are all customers and partners. So are surface transportation modes that link airports to communities. FAA's own diverse employees are key partners. Each customer and partner has different needs and speaks with a different voice. FAA must listen, balance those needs, and act.

*The global aerospace environment* (or rather, possible environments, since the future is unknowable) is discussed in appendix A. There are driving forces and opportunities for change, but also restraints. The Department of Transportation (DOT) and FAA, working with key members of the transportation community, identified some 250 drivers of change, arranged them along 4 dimensions, then combined them to describe 4 scenarios representing the broad range of possible futures. People "lived in" each of the 4 worlds, developing transportation and aviation goals and strategies to address that world's needs. Then they took the strategies from each world and "stress



## FAA Strategic Plan



tested” them in the other worlds, to identify the robust strategies that work well in multiple futures. The current FAA goals and strategies were also stress tested and found generally robust.

This strategic plan, then, provides the *long-term framework* to match resources with initiatives for long-term change. It supports the Department of Transportation’s (DOT) Strategic Plan (see appendix B) and responds to numerous evaluations (see appendix C). It is a basis of FAA resource requests and provides long-term measures of success. Finally, it supports both FAA and DOT efforts under the Government Performance and Results Act (GPRA). (see appendix D.)

*This is not, however, the only aerospace plan.* The National Aeronautics and Space Administration (NASA) Strategic Plan has a strong aviation component and adopts the same safety goal as this plan. The Department of Defense (DoD) must plan for its own air traffic control system and for coordinating its system and equipping its aircraft to operate in the civilian National Airspace System (NAS). DoD also has the U.S. Space Command, with its own long-range plan. Private aerospace companies have plans as well. FAA itself has numerous important plans, including the Capital Investment Plan (CIP) and the Research, Engineering, and Development (RE&D) Plan.

*Nor is this the only transportation plan.* Just as aviation and commercial space are parts of the transportation system, so is the FAA a part of DOT. The safety, security, and system efficiency goals presented here directly support the DOT Strategic Plan goals of safety, national security, mobility, economic growth and trade, and human and natural environment. This plan is a basis for FAA participation with other modes of transportation as well--sharing research in such areas as flammability, toxicity, and cabin integrity; sharing and co-developing systems such as the Global Positioning System (GPS) of satellites; and linking airports to metropolitan transportation. The key is to ensure that all these plans and programs coordinate with each other and with the overarching direction contained in the DOT Strategic Plan.

*The Strategic Plan established in 1998* remains unchanged, with the same mission, goals, and strategies (focus areas). This edition expands the discussion of the environment to look at aerospace impacts and strategies under multiple possible futures. It takes advantage of 2 years of evolution in how FAA measures success to describe better outcome performance goals. It is now supplemented by a new, annual document, the **FAA Strategic Plan Achievement Supplement**. That document describes in more detail the near term projects and milestones FAA is undertaking to meet the goals and strategies in this Strategic Plan. The 2 plans taken together set the course for FAA strategic management.



### FAA Mission, Vision, and Values

FAA helps shape the future of aerospace based on a mission as defined by legislative mandate (especially Title 49, United States Code). FAA's mission also responds to direction established by the Administration, Congress, and the Department of Transportation, the expectations of its customers and partners, and the vision and values of its people. The following are statements of the mission, vision, and values FAA will apply in shaping the future of aerospace.

#### FAA VISION

To provide the safest, most efficient and responsive aerospace system in the world and to be the best Federal employer, continuously improving service to customers and employees.

#### FAA MISSION

FAA provides a safe, secure, and efficient global aerospace system that contributes to national security and the promotion of U.S. aerospace safety.

As the leading authority in the international aerospace community, FAA is responsive to the dynamic nature of customer needs, economic conditions, and environmental concerns.



## FAA VALUES

### We Believe in:

- Trust
- Integrity
- Honesty
- Involvement
- Teamwork
- Diversity
- Respect

### We Are Committed To:

- Responsiveness
- Quality
- Timeliness
- Fiscal Responsibility
- Accountability
- Communication

### We Will Achieve These Values By

- \* Giving people what they need, then letting them do their jobs.
- \* Making timely decisions at the lowest level and respecting them.
- \* Committing our best to our customers.
- \* Valuing our people.
- \* Being open to new ideas.
- \* Speaking out for what we believe, even when it is unpopular.
- \* Recognizing each person's contributions and realizing each person's full potential.
- \* Collaborating across organizations.
- \* Taking pride in what we do.



## Mission Goal: ***SAFETY***

**By 2007, reduce U.S. aviation fatal accident rates by 80 percent from 1996 levels.\***

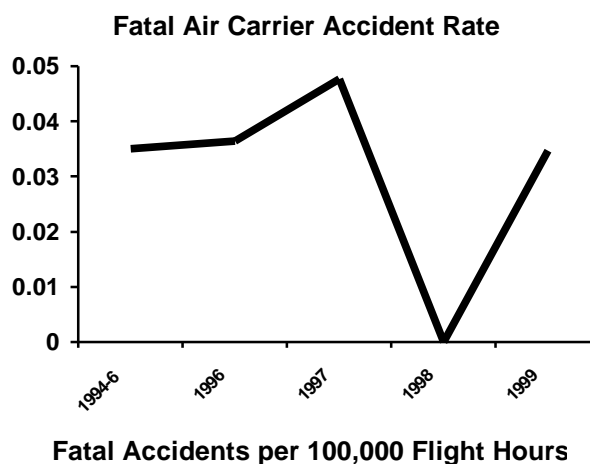
**Supports DOT Strategic Goal: SAFETY.**

**Performance Goals (Outcome Measures of Success):** FAA has set ambitious targets for safety improvements by specified dates. It will take the entire aerospace community working together to meet these goals.

### ***Fatal Air Carrier Accident Rate***

By 2007, reduce the U.S. commercial air carrier fatal accident rate \*per 100,000 hours flown by 80 percent of the 3-year average from 1994 to 1996.

This performance goal was taken directly from the chief safety recommendation of the 1997 White House Commission on Aviation Safety and Security, and is applied to commercial aviation. The graph presented here shows FAA early progress toward meeting this primary performance goal.

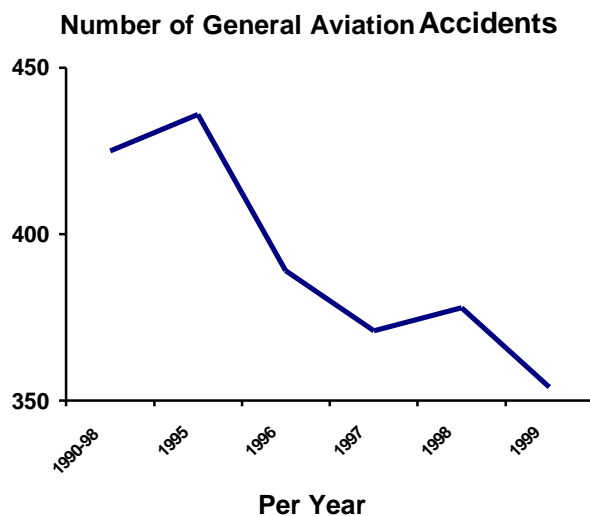


### ***General Aviation Fatal Accidents:***

Reduce general aviation fatal accidents by an amount that will result in a 20 percent improvement of the projected 2007 estimate of 437 (or no more than 350 a year). The 2000 target results in a reduction of 3.0 percent (no more than 379 fatal accidents) – with the reduction to be achieved in key areas outlined in the Safer Skies agenda.

This goal was recently agreed upon by a coalition representing the general aviation community and the FAA.

It represents fulfillment of a pledge made in the 1998 Strategic Plan to move beyond goals for commercial aviation alone. The graph presented on the previous page shows the recent trend in number of general aviation fatal accidents.

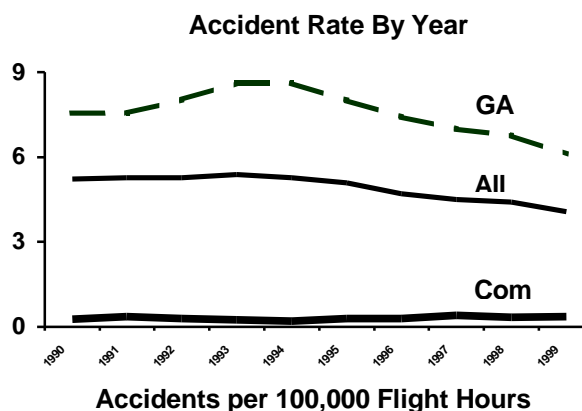




## Overall Aircraft Accident Rate:

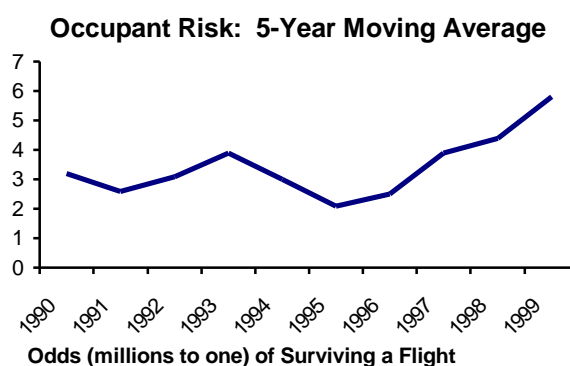
Reduce the rate per 100,000 flight hours.

Aviation safety means reducing all accidents, not just fatal accidents. This graph shows the trend in the overall accident rate. Commercial aviation (Com) includes Part 121 and Scheduled Part 135 aircraft and is very low relative to general aviation. General Aviation (GA) also includes unscheduled Part 135 carriers. The overall rate (All), then, is the weighted average of the two.



**Occupant Risk:** Increase the probability that passengers and crew will survive an air carrier flight.

This measure is literally your odds of surviving your next flight. It relates the probability you will NOT be in a fatal air carrier accident (NF%) and the probability of not surviving if a fatal accident occurred (NS%). The exact formula is  $NF\% / NS\%$ . This is the ultimate aviation safety measure for airline passengers and crew. The graph shows the recent, improving trend in your odds. In 1999 (1995-9), the odds were 5.8 million to 1. Dr. Arnold Barnett of MIT,



who developed the measure, recently estimated that you could fly once a day for 22,000 YEARS and not lose your life in a commercial aviation accident.

**Some Context:** These 4 performance goals are the top of a set of measures to assess FAA achievement of outcomes, provision of products and services (outputs), completion of actions and milestones (activities), and use of resources (inputs) to serve FAA customers and stakeholders. They are linked to outcome performance goals such as runway incursions and operational errors in DOT and FAA annual Performance Plans. They are linked to projects, accomplishments, and milestones in the FAA Strategic Plan Achievement Supplement and the Administrator's annual Performance Agreement with the Secretary, budget requests for resources to meet FAA commitments to these safety goals, and senior manager performance standards.

## Cross-Cutting Strategies that will Enable this Goal:

FAA will work with the aerospace community to achieve safety by using two approaches highlighted in the Administrator's Safety Agenda: (1) build on currently successful efforts to identify the root causes of past accidents; and (2) use a more proactive analytical approach, with new data sources, to identify key risk factors and intervene to prevent potential causes of future accidents. Key strategies are:

- **Partnerships:** Team with the world aerospace community and FAA's employees to deliver the safety goal jointly. The Aviation Regulatory Advisory Committee (ARAC), for example, uses partnership between FAA and aviation to advance safety.



- **Global Leadership:** Influence international organizations to develop, harmonize, and implement improved safety standards which meet the high expectations of the American aerospace community.
- **Research:** In partnership with NASA, the Department of Defense, and other public and private organizations scientifically study issues and technologies (especially human factors) to improve policies, procedures, and equipment.
- **Acquisition,** deployment, and use of research results is key to improving safety.
- **Rapid Deployment:** Deploy existing safety-improving technology operationally.
- **Risk Management:** Safe transition to improved technology.

## Strategies (Focus Areas) and Near-Term Projects:

**Accident Prevention.** Based on detailed analysis of recurrent accident causes, FAA works with the aviation community to prevent accidents through targeted, systematic interventions. “**Safer Skies**”, the Administrator’s Safety Agenda, highlights three broad initiatives that will change over time. Runway Safety addresses runway incursions and programs such as the Airport Movement Area Safety System (AMASS). Commercial Aviation Safety addresses accident causes such as controlled flight into terrain (CFIT), uncontained engine failures, approach and landing, and loss of control. Finally, General Aviation Safety addresses causes such as CFIT, weather, loss of control, survivability, and aeronautical decisionmaking.

The key to Safer Skies is joint action based on systematic analysis. A Joint Steering Committee (JSC) of both FAA and the aviation community oversees the process. The JSC charters Joint Safety Analysis Teams (JSAT) to analyze recurrent accident causes and develop targeted actions. The JSC then charters Joint Safety Implementation Teams (JSIT) to oversee implementation. The Commercial Aviation Safety Strategy Team (CASST) works to ensure that available safety resources from both industry and government are focused on the leading safety issues based on a data-driven approach. CASST developed a safety agenda released in February 1998, and is working closely with FAA and NASA. CASST members include the Air Transport Association, the Aerospace Industries Association, the Airline Pilots Association, Airbus Industrie, the Boeing Company, General Electric Company, Pratt & Whitney, and Rolls Royce.

### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Safer Skies – Runway Safety Program, including AMASS
- Safer Skies – Commercial Aviation
- Safer Skies – General Aviation
- Safe Flight 21
- GPS Implementation: Expand GPS Use

**Safety Information Sharing and Analysis.** To reduce the fatal accident rate 80 percent, FAA must grow beyond regulation and enforcement. FAA must partner with an aviation community that seeks to address potential accident causes. Voluntarily sharing a wide range of safety information is key. Protecting information and sources is needed to gain voluntary disclosure. FAA must balance enforcement with the need to share information to garner maximum improvement in safety. Data now available from flight recorders, maintenance reports, and other sources can be used to analyze operations, find potential problems, and develop procedures, regulations, and technologies to prevent accidents before they occur.

### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Global Aviation Information Network (GAIN)
- Aviation Safety Action Program (ASAP)



- National Aviation Safety Data Analysis Center

***Certification and Surveillance.*** While partnership, information sharing, and addressing human factors are keys to improving safety, FAA must also gain maximum benefit from its certification and surveillance programs. This means working with others on certification, surveillance, and inspection and targeting FAA resources where they will do the most good. FAA seeks to build on several recent initiatives in which feedback is a unifying element, including the Air Transportation Oversight System (ATOS), a top Administrator priority. FAA is also addressing key certification and inspection issues, such as shipment of dangerous goods. Other initiatives ensure that safety concerns are considered systematically in FAA decisions. In commercial space transportation, the ultimate goal is to develop standards that will apply to all space launches from, and landing at, every U.S. site, Federal or non-Federal. These standards will be promulgated through FAA rulemaking.

***Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)***

- NAS Modernization Safety Assessment
- Dangerous Goods
- Space Transportation Vehicle Safety
- Air Transportation Oversight System (ATOS)
- Employee Drug- and Alcohol-Free Workplace
- Safety Risk Policy Implementation
- Transition of Oversight Responsibilities at Air Force Launch Sites to FAA

## **Transportation Community Involvement:**

The transportation community is the front line for safety. Safety activities and programs by airlines, manufacturers, pilots, airports, commercial space launch operators and site owners, general aviation, and the rest of aerospace implement FAA regulations. They then go beyond to ensure the safe aerospace system everyone desires. Other Federal agencies have strong safety roles. Safety is the "North Star" of the DOT Strategic Plan. FAA supports DOT and works with other modal administrations to share research in areas such as flammability, toxicity, and cabin integrity; co-develop new systems such as GPS; and ensure that the safety of ground and air transportation is designed into airports and their surface connections. The National Transportation Safety Board investigates accidents and makes recommendations to FAA and aviation. NASA has adopted this plan's aviation safety goal and set an additional goal of reducing the aviation fatal accident rate by a factor of 10 in 20 years. NASA's key contribution is aviation safety research. The Department of Defense (DoD) operates its own air traffic control system in coordination with the civil system. DoD must also equip its aircraft to operate in the civil system. A key issue for DoD is safe operation in air traffic control systems around the world that often are not as safe as the United States. DoD supports FAA and the International Civil Aviation Organization (ICAO) in addressing safety issues in these systems.

Partnership is key to achieving safety. FAA, NASA, and DoD are developing and implementing interagency safety research plans based on NASA's "Toward a Safer 21st Century -- Aviation Safety Research Baseline and Future Challenges." Human factors is guided by the jointly developed 1995 National Plan for Aviation Human Factors. ARAC, likewise, continuously involves aerospace with FAA to develop better safety regulations. FAA partnership with aviation has led to many successes, including safety schools that have trained over 5,000 people and the Advanced Qualification Program that has produced more qualified flight crews and safer aviation. The commercial space transportation industry is in its infancy, and is working in close cooperation with FAA, NASA, DoD, and others to continue its fine safety record.





## Mission Goal: **SECURITY**

**Prevent security incidents<sup>1</sup> in the aviation system.**

**Supports DOT Strategic Goal: NATIONAL SECURITY.**

### **Performance Goals (Outcome Measures of Success):**

**Explosive Device and Weapons Detection:** Improve the ability to detect improvised explosive devices (through use of simulants) and weapons that may be brought aboard aircraft.

**Airport Security:** Prevent unauthorized access to aircraft and improve security at airports by a specified\* percentage from a 1999 baseline index derived from assessments and tests.

**Airway Facility Risk:** Increase the number of FAA facilities fully accredited as meeting security standards to a specified\* percent.

*\* Specified improvements and baselines are protected under C.F.R. Part 191.*

### **Cross-Cutting Strategies that will Enable This Goal:**

- **Partnerships** with government, airports, and air carriers to improve equipment and personnel, with law enforcement to gain intelligence and apprehend those who threaten security, and international partnerships to improve security worldwide.
- **Research, engineering, and development** of advanced security technologies and techniques and **acquisition**, installation, and use of new systems.
- **Rapid deployment** of security equipment.

### **Strategies (Focus Areas) and Near-term Projects:**

**New Security Baseline.** FAA's approach to aviation security has long been to establish a solid baseline level of security at airports throughout the Nation, then to address risks and vulnerabilities that remain. The White House Commission on Aviation Safety and Security stressed the need to continue to improve the baseline security system for civil aviation. FAA, in cooperation with a host of other federal agencies, continues to implement White House Commission recommendations, and DOT has made implementing the security recommendations one of its "Flagship" initiatives.

#### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Certification of Screening Companies
- Deploy Advanced Security Technology
- Implement Automated Passenger Screening
- Facility Security Risk Management

<sup>1</sup> "Security incidents" means criminal or terrorist acts against commercial passenger air transportation that is subject to security regulation during which weapons, firearms, incendiary or explosive devices are used. These acts must result in hijackings, sabotage, bombings, aircraft piracy, or attacks within the secured areas of airports that could cause fatalities or serious injuries. This definition excludes: Hoax hijackings or bomb threats; unruly passengers; and, international disruptions in air traffic service.



**Information Security.** FAA has completed and is implementing the FAA Critical Infrastructure Protection Plan. Key elements include increased security awareness training including professional security certification for 40 percent of employees working in information security responsibilities. Another element is development and update of information security policies and procedures, including an Information Security Concept of Operations and publication of an FAA Order. FAA will also enhance incident reporting and tracking capability, increase security inspections, monitoring, and vulnerability assessment, and develop an Initial and then an Enhanced Computer System Incident Response Capability.

**Key Near-term Project (See FAA Strategic Plan Achievement Supplement)**

- FAA Information Systems Security Program

## Transportation Community Involvement

Security, like safety, is provided by the entire transportation community. Airports, airlines, and a host of Federal, state, local, and even international agencies and organizations that provide intelligence and enforcement are all FAA partners. The commercial space transportation community is also beginning to address security needs at launch sites. FAA shares information on security threats with other modes of transportation and with law enforcement at all levels of government. Indeed, the proper focus of security is on incidents against the United States as a Nation, not just against airports, airlines, and launch sites. FAA and the airlines are together deploying elements of the Screener Proficiency Evaluation and Reporting System (SPEARS), and all major carriers have implemented Computer-Assisted Passenger Pre-Screening (CAPPS) voluntarily in advance of a regulation by FAA. FAA has established voluntary consortia at over 130 airports nationwide.

Other Federal agencies are also partners. The White House Commission on Aviation Safety and Security made 57 recommendations, 31 on aviation security. In response a host of agencies, including NTSB, the FBI, the Bureau of Alcohol, Tobacco, and Firearms (ATF), and the Customs and Postal Services came together with DOT/FAA to achieve the recommendations.

Aerospace security, in turn, is part of national security. A key FAA and aerospace contribution to national security is the Civil Reserve Air Fleet. In times of crisis such as the Gulf War, U.S. airlines provide civilian aircraft to fly troops and equipment to key locations throughout the world. FAA guarantees insurance for those aircraft. In time of war, the President can go a step further and transfer to the Secretary of Defense a duty, power, activity, or facility of the Federal Aviation Administrator.



## Mission Goal: SYSTEM EFFICIENCY

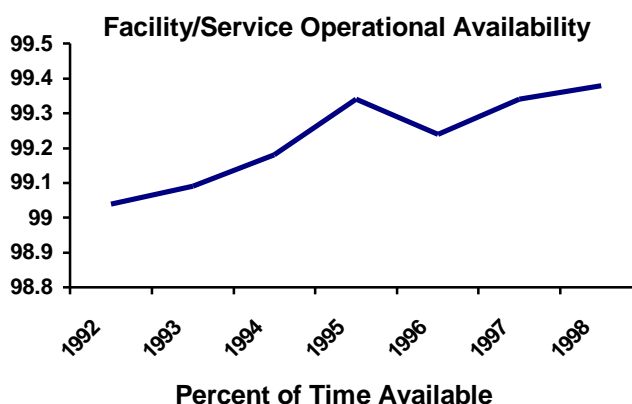
**Provide an aerospace transportation system that meets the needs of users and is efficient in the application of FAA and aerospace resources.**

**Supports DOT Strategic Goals: MOBILITY; ECONOMIC GROWTH AND TRADE; HUMAN AND NATURAL ENVIRONMENT**

### Performance Goals (Outcome Measures of Success):

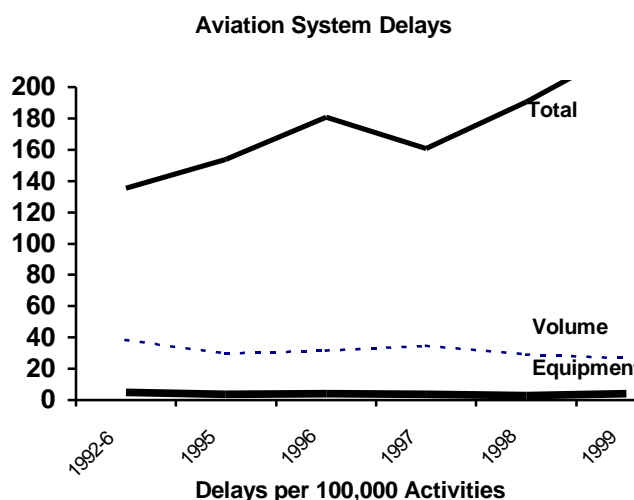
**System Availability:** Increase the percentage of time a typical major facility or service is available to users of the National Airspace System.

The National Airspace Performance System (NAPRS) sets forth requirements and procedures for reporting interruptions to facilities and services in the NAS. As of September 30, 1998, there were 130 major facility or service types for interruption reporting.



**System Delays:** Reduce the rate of aviation system delays, and especially the volume and equipment delays over which FAA has more direct control, from a 1992-1996 baseline.

"Delays" are delays of over 15 minutes, and the rate is per 100,000 activities. Activities include instrument and non-instrument operations at FAA and contract airports and aircraft handled at enroute Air Route Traffic Control Centers (ARTCC). While volume and equipment delays have declined, total delays have increased.



### Cross-Cutting Strategies Applied to the Goal:

- Implement Free Flight in **partnership** with users and within FAA organizations.
- Work with the international community to achieve **global consensus** to modernize and improve the efficiency of the global aerospace system.



- **Research, engineering, development, and then acquisition** of improved systems is key to modernization and increased system efficiency.
- Work with aerospace and involve communities to **mitigate environmental concerns** that arise from meeting aviation system requirements.
- Develop appropriate **financing methods** for overall funding of the FAA.

## Strategies (Focus Areas) and Near-term Projects:

**Free Flight.** Free flight is the opportunity to fly anywhere, anytime by the best route as judged by the user, subject only to the safety restriction that one aircraft not fly too close to another. A truly efficient aerospace system for users will provide free flight, allowing aircraft to fly in ways that give users the most benefit as they define it.

Under Free Flight Phase 1, FAA is fielding the following capabilities:

- The Surface Movement Advisor (SMA) provides aircraft arrival information to airlines.
- Collaborative Decision Making (CDM) provides for exchange of near real time operational and NAS status information with users, decision support tools, and performance measurement capabilities.
- Conflict Probe – User Request Evaluation Tool (URET) provides two-way conflict probe capability.
- Passive Final Approach Spacing Tool (pFAST) allows closer spacing and increased runway capacity.
- Traffic Management Advisor (TMA) is a decision automation tool that aids the en route controller and traffic managers on metering, sequencing, and spacing of en route arrival aircraft.

### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Free Flight Phase 1
- Restrictions Elimination and Flexible Flight Planning
- National Airspace Redesign

**NAS Modernization.** The existing air traffic system must be upgraded. Problems such as congestion must be addressed. Opportunities such as information technology must be used. Developing an efficient aerospace system requires describing the system to be built and how it meets aerospace needs. The National Airspace System (NAS) Architecture continually updates the system description and is the framework for modernizing the National Airspace System over the next 15 years.

### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Improve NAS Communications
- Standard Terminal Automation Replacement System (STARS)
- Display System Replacement (DSR)
- Operational and Supportability Implementation System (OASIS)
- Improve Aviation Weather Information for the NAS
- RESTORE: Revitalize Existing Structures, Technology, and Operational Resources
- Host/Oceanic Modernization

**Systems Integration.** DOT organizations including FAA, along with Federal, state, local, and private organizations, all help improve transportation system efficiency. Only close communication and integration of efforts will lead to efficient transportation. Thus, when FAA's Research and Acquisition organization oversees development of a new technology, the Air Traffic Services organization must recognize the need for it and train and prepare its people to use it. When a new airport runway



is built, the lighting, approaches, and radar coverage must be provided so that the runway can be used. Airports must be well linked to local surface transportation and local transportation planning. Information technology architectures, including system security, telecommunications, and others, must be integrated in the NAS Architecture. More recently, there are opportunities to integrate commercial space transportation and aviation by having aircraft land at spaceports, using the Global Positioning System (GPS) to locate space vehicles, and even, in the future, having space vehicles land and take off from commercial airports. This will require close coordination among FAA's Research and Acquisition, Air Traffic Services, and Commercial Space Transportation offices to support developing an integrated air and space traffic management system.

**Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- NAS/Airport Integration
- Space and Air Traffic Management System (SATMS)

### Transportation Community Involvement

People and goods must be moved to and from airports as well as in the air. In such a system, the aerospace community flies airplanes and launches space vehicles. FAA and airport/spaceport owners provide infrastructure linked to surface transportation. Surface transportation modes link to nearby metropolitan and rural areas. DOT and the modal administrations including FAA, support and oversee the transportation system and link its parts into an efficient whole.

Examples abound. In the Federal Radionavigation Plan, the DOT's Volpe Center, the United States Coast Guard, FAA, and others coordinate policy and programs for navigation systems, including GPS and LORAN, used by many transportation modes. FAA and the Federal Highway Administration (FHWA) developed joint guidelines for design and construction of surface transportation facilities at airports. FAA, FHWA, the Federal Transit Administration (FTA), and the Port Authority are all working together to build a light rail line to JFK Airport.

Free Flight is another example of partnership. Free Flight holds that an efficient aerospace system is one that gives users freedom to gain maximum benefit. So the aerospace community helps test new Free Flight Phase 1 systems in a realistic environment. FAA, the airlines, and others have together identified the capabilities needed for Free Flight and are incorporate them into the evolving NAS Architecture.

Partnership among Federal agencies is crucial to an efficient system. NASA contributes research on safety and technologies ranging from reliable, low-cost general aviation avionics to hypersonic transport and quieter, cleaner aircraft engines. NASA and FAA have signed a formal memorandum of understanding on air traffic system research, and an Interagency Integrated Product Team formulates that research agenda in a yearly national plan. NASA has contributed nearly \$600 million plus personnel costs over 7 years. DoD is also a crucial partner. DoD operates its own ATC system that meshes with the civil NAS to serve both civil and military uses. Restrictions and Special Use Airspace are key FAA concerns, and DoD is concerned about NAS equipment requirements that must be met on military aircraft.

Finally, as commercial space transportation grows, it will link more closely to aviation. There is already linkage; commercial space launches go through U.S. commercial airspace, so airspace over launch sites is closed off during launches. In the future, aircraft may take off and land at spaceports, and spacecraft may use major airports. The two will increasingly share navigation and surveillance systems, and will need to operate together without restricting each other. The Space and Air Traffic Management System (SATMS) project is key to achieving that result.



### **Making it Happen: Enabling Goals and Strategies**

#### **People: The Foundation of Accomplishment The Model Work Environment at FAA**

**Create and maintain a hospitable work environment that supports a productive and skilled work force reflective of the Nation's diversity to accomplish the mission and better serve our customers now and into the 21st century.**

##### **Definition of Success:**

- Achieve a significant increase in positive employee perceptions of the FAA work environment as measured by agencywide and line of business (LOB) work force surveys.
- Reduce under-representation in the agencywide and LOB work force as compared to the previous year's Affirmative Employment Program results.
- Establish baseline(s) against which success in reducing incidents of harassment and resolving complaints of harassment will be measured in successive outyears.
- Training will be assessed by success at achieving the mission goals and sustaining the Model Work Environment (MWE).

##### **Strategies (Focus Areas) and Near-term Projects:**

**Intellectual Capital.** People are the most valuable FAA resource. Just as physical assets require maintenance and investment in order to be fully productive, FAA values and provides education and training. This creates a continuous learning environment that develops and maintains the intellectual capital that not only gets today's mission done, but positions the agency to achieve present and future mission-based and enabling goals, including MWE.

##### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Career Paths and Development for the 21<sup>st</sup> Century Work Force

**Managing the Diverse Work Force.** FAA will reflect the Nation's diversity and eliminate any artificial barriers to the advancement and full contribution of all employees. FAA will reach out in recruiting to widen the pool of qualified applicants for agency vacancies. FAA will continue to develop its existing employees at all levels to widen opportunities for advancement. FAA is also committed to eliminating all forms of unlawful discrimination and harassment through a multi-faceted approach emphasizing guidance, training, information on what constitutes unlawful discrimination and harassment, and accountability.

##### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Accountability Board

**Focus Area: Quality of Work Life.** FAA is committed to provide a model work environment, enabling employees to perform at their highest potential and contribute to the organization. Instrumental in achieving this is measuring employee satisfaction across several dimensions and using this information and other employee feedback as inputs to action plans for improving the quality of work life.

##### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Opportunity for All



## Reform: The Framework For Accomplishment

FAA is reforming how it does business, with emphasis on three areas.

**Acquisition Reform.** FAA is reforming its acquisition process to make it faster, simpler, and more mission based. FAA's new, reformed Acquisition Management System (AMS) strives for a 50-percent reduction in acquisition cycle time and a 20-percent reduction in acquisition costs. There are four key elements. **Financial Management Reform** emphasizes life-cycle costs, analysis, and accountability. **Cultural Change** emphasizes work force competency, understanding the new Acquisition Management System, and cross-organizational cooperation, and improving individual and organizational effectiveness through analysis and changes to the FAA culture in response to internal and external studies. **Acquisition and Procurement Process Improvements** (i.e., using an Integrated Capability Maturity Model (FAA-ICMM) to improve the way FAA manages, engineers, and acquires software-intensive systems across all phases of the FAA acquisition life cycle) are meant to improve management, mission analysis, dispute resolution, and planning linkage. **Measure Implementation** establishes measures for time, cost, quality, and performance, then uses them to compare new program results with cost, schedule, and performance baselines that describe good performance. This allows FAA to assess its success in managing its current and future information technology and other investments.

### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- FAA-Wide Major Procurement Goals (MPPG)
- Information Technology Strategy

**Personnel Reform.** The 1996 DOT Appropriations Act authorized the development of an entirely new personnel system for FAA--a system largely unencumbered by the constraints of government-wide personnel law and regulations. The goal was to replace the labyrinth of existing regulations and procedures with simpler and more flexible principles and systems. Drawing on common-sense approaches to government and best industry practice, the new personnel system is designed to provide increased flexibility in hiring, pay, and placement; protect employee rights; increase productivity; promote high standards of accountability; enhance the agency's intellectual capital; and create incentives for change.

### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Human Resources Redesign
- Compensation Implementation
- Labor-Management Partnership
- Communication Strategies

**Financial Reform.** The National Civil Aviation Review Commission (NCARC) completed a congressionally mandated review of FAA programs and financing. It recommended that revenues from aviation users and spending on aviation services be directly linked; that FAA management become performance based; that FAA's revenue stream become more cost based; that FAA control its operating costs and increase capital investments; and that airport capital needs be met. FAA will work to implement a funding system based on those recommendations that provides stable, adequate, fair, cost-based funding that allows FAA to meet legitimate aerospace needs.

### **Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- Continue implementing the Cost Accounting System (CAS)
- Receive Unqualified Audit Opinion
- Cost and Performance Management



### **The Environment: Our Responsibility**

Environmental issues, and especially aviation noise, represent an important challenge to the continued growth and prosperity of civil aerospace as we enter the 21st century. The environmental impact of aerospace must be reduced in ways which do not constrain aviation and commercial space transportation activities.

***Understanding Aerospace Environmental Impacts.*** FAA will participate with NASA and others in the aerospace community in research to understand more fully the effect of aerospace on the atmosphere and ways to minimize the impacts.

***Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)***

- Global Emissions

***Reducing Aerospace Environmental Impacts.*** FAA will combine regulation, research, technology, and procedures to help aerospace reduce and mitigate adverse environmental impacts, especially of aviation noise.

***Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)***

- Local Air Quality
- Airplane Noise

### ***Quantify and Mitigate Environmental Impacts of FAA Activities***

### **Global Leadership: Commitment to Worldwide Improvements**

FAA is committed to working for worldwide improvements in safety, security, and system efficiency. The United States has the largest civil aviation infrastructure and the most civil aviation activities of any country. U.S. airlines and DoD operate worldwide. U.S. citizens travel abroad widely, in areas where FAA has no direct regulatory authority. U.S.-manufactured aircraft and technologies are used in every country of the world. U.S. aerospace is truly global. In this environment, FAA's interests must also be global.

FAA is the world's leading aviation authority and U.S. aerospace leads the world. They lead through safety, security, and technological initiatives and cooperative actions. FAA's leadership at the International Civil Aviation Organization (ICAO) has strengthened ICAO's safety and security programs. U.S. aerospace support of new technologies is creating a safer, more efficient global airspace system. FAA and U.S. aerospace also work cooperatively with international civil aviation partners--regional organizations, individual states, and industry associations--to increase the capability of other national authorities to regulate and operate safe civil aviation systems. International harmonization and development of civil aviation infrastructure, including institutional development, are key ways to bring about global improvements. FAA will focus its near-term international efforts in the following areas:

***International Safety Oversight.*** FAA developed the U.S. International Aviation Safety Assessment (IASA) program to assess compliance of foreign civil aviation authorities (CAA) with international safety standards and the ability of CAA's to provide safety oversight of their national air carriers operating in the United States. ICAO has implemented its own assessment program. FAA's goal is for ICAO to provide information useful in determining the ability of individual States to oversee their regulatory programs in compliance with ICAO Standards. FAA will seek support and consensus among ICAO members for acceptance of a credible and effective ICAO





Safety Oversight program. Ultimately, information provided by the ICAO safety oversight program might permit FAA to augment its own IASA program with information provided by ICAO assessments. For example, in some cases this could allow the FAA to forego an onsite inspection of a particular national civil aviation authority where adequate information was obtained from an ICAO assessment.

**Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- ICAO Universal Safety Oversight Audit Program

**Global CNS/ATM Development and Implementation.** ICAO's acceptance of a satellite-based Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) system with more user flexibility is part of a global transition from ground- to space-based air traffic systems. To gain the fullest safety and efficiency benefits, the new system must be implemented worldwide. International standards must be developed and adopted through collaborative efforts working through ICAO with FAA's international partners, and implementation must be synchronized to encourage implementation by air traffic service providers and aircraft operators worldwide. FAA will work to synchronize development and implementation of the NAS Architecture with ICAO's Global Plan for CNS/ATM Implementation to ensure interoperability and global integration.

**Key Near-term Projects (See FAA Strategic Plan Achievement Supplement)**

- International Acceptance and Implementation of Satellite Navigation

### **Global Safety Action Plan**

### **International Regulatory Harmonization**



## Cross-cutting Strategies for Continuous Improvement

The following management tools, previously discussed as they applied to specific mission goals, are crucial to mission accomplishment.

- **PARTNERSHIP.** Achieving mission goals requires many kinds of partnership. FAA must share information and leverage resources with the aerospace community. It must jointly plan and research with other Federal agencies, coordinate with state and local governments on oversight, environment, and intermodal transportation connections, and harmonize regulations with foreign governments and international organizations. FAA and the Department of Transportation, of which FAA is a part, must work closely to achieve overall transportation goals, for example, by supporting the Garrett A. Morgan Technology and Transportation Futures Program. Community involvement is key to achieving aviation and transportation that best serves all Americans. Partnering with businesses that serve aerospace, including small and disadvantaged businesses, is key to achieving aerospace and national goals.

Finally and most important, FAA must work in close partnership with its employees and their unions by delegating authority, sharing tasks, and empowering the work force. The FAA's National Partnership Council, which brings together key union officials and senior FAA managers, has made a significant impact on this plan. FAA must also address the interests of non-bargaining unit employees as expressed by the employee associations and elsewhere. Only with employee cooperation can FAA's goals be accomplished.

- **COMMUNICATION.** Communication is vital to understanding needs, coordinating to achieve goals, building public confidence, and gaining full benefits of employee involvement. Communication must be two way--listening and speaking. FAA will foster communication with external customers and partners, employees, and unions.
- **RISK MANAGEMENT.** The aerospace community must apply resources where they do the most good. This means risk management--assessment of where the greatest risks lie and what actions provide the most risk reduction. FAA has developed a risk management policy and is developing a number of tools. FAA will continue to develop and apply those tools to target its resources effectively.
- **RESEARCH, ENGINEERING, DEVELOPMENT, AND ACQUISITION.** Research, engineering, and development by FAA, NASA, the aerospace industry, and others are crucial to operating, maintaining, and modernizing the air traffic management system. FAA acquisition both modernizes the system and maintains and replaces the system's parts. Acquisition reform has given FAA the opportunity to speed up acquisition and focus it on customer and mission needs. It has increased FAA freedom to use other tools, such as information technology, to maximum benefit. Taking full advantage of that opportunity is a major FAA management strategy.
- **RAPID DEPLOYMENT OF EXISTING TECHNOLOGY.** FAA must not only research, develop, and acquire new technology, it must move quickly to deploy both technology it has developed and technology from other sources, including commercial-off-the-shelf (COTS) and non-developmental item (NDI) systems. The aerospace community must participate in and support those decisions, then prepare itself to use the new systems.



## Ensuring Success and Accountability

The purpose of this strategic plan is to set long-range direction to implement change. The **FAA Strategic Plan Achievement Supplement** documents the implementation of this plan, describing near-term corporate projects under each goal and strategy. These corporate projects are incorporated into annual FAA Performance Plans, the Administrator's Annual performance Agreement with the Secretary of Transportation, and other FAA plans, programs, and budgets.

In order to ensure strategic management success, two additional elements are needed, accountability and coordination. Internal FAA coordination has been key to developing both this plan and the FAA Strategic Plan Achievement Supplement, and it will continue. FAA lead and support organizations have been agreed upon for each goal, strategy, and corporate project and they have committed to providing what has been asked. The result is a series of FAA plans with schedules and milestones to implement each project.

The Administrator and her senior management team then hold “colors” meetings to review each project at least quarterly. Each lead and support organization rates each project as Green, Yellow, or Red. Then the Management Board assesses FAA progress implementing each project, describes issues and problems, and determines actions being taken to bring “yellow” or “red” projects back on track.

Project accomplishments are also included in the performance standards of FAA senior managers. Core performance goal targets for each strategic mission goal are also incorporated into the incentive packages for senior FAA executives.

The FAA Administrator, in turn, holds herself accountable to the Secretary of Transportation through an annual Performance Agreement and monthly meetings with the Deputy Secretary to review progress.

FAA, finally, holds itself accountable to the aerospace community through annual Challenger Sessions where the Administrator and her senior managers sit down for a day with leaders of the aerospace community to discuss FAA plans and accomplishments and aerospace community needs.

The result is that FAA knows how well it is carrying out its near-term projects and whether they result in a safer, more secure, more efficient aviation system that supports the transportation needs of America. That knowledge is supported by evaluations that tell FAA whether it is doing the right things and whether it is doing them well. Based on the evaluations and working with the Department and the transportation community, FAA will constantly recalibrate and revise its course toward success.



## APPENDICES:

### A. Environmental Scan: Key Factors Affecting FAA and Aerospace

The aerospace environment contains both driving forces and opportunities for positive change, but contains restraining forces that make change difficult. These forces will shape not only aerospace but the entire world over the next 30 years.

In early 1999, key leaders of DOT and the transportation community scoped out possible world futures for the year 2028 and developed strategies for each. They started by identifying some 250 “drivers”, ranging from the economy and demographics to terrorism, the degree of global orientation, and various aspects of the political and international environment. A core team isolated 4 broad dimensions:

- **The U.S. economy:** whether it was strong or weak.
- **Globalization:** Has it continued or is there a more regional orientation?
- **The role of government:** Is it active or passive?
- **Demand for transportation:** Is it focused or is it vague and unclear?

The core team used the drivers and dimensions to sketch out 16 future scenarios and the leaders chose 4 that covered the broad range of possible futures in the year 2028.

The transportation leaders next “lived in” the scenarios for several days. They developed transportation goals and strategies for each world. They finished by “stress testing” each strategy in the other worlds, to identify which were “robust” strategies that were beneficial in several possible futures, and which should be kept in reserve in case the future actually began to resemble the scenario to which it applied. The robust strategies were considered strong candidates for a new DOT Strategic Plan.

FAA next examined aerospace implications of the 4 scenarios. Like DOT, FAA assembled a team of FAA and aerospace leaders. Like the DOT team, the aerospace group “lived in” each scenario. They described what life was like, what aerospace was like, and roles and relationships in each of the scenario worlds. They developed aerospace goals and strategies for each world. Finally, like the DOT team, they stress-tested the goals and strategies from each world and from the current Strategic Plan against the other worlds. The following pages describe how they viewed the various scenarios and major aerospace implications they identified for each of the worlds.

#### WESTERN HEMISPHERE

<i>Dimensions:</i>	
<b>U.S. Economy:</b>	↑
<b>Globalization:</b>	↓
<b>Role of Government</b>	↑
<b>Demand for Change In Transportation</b>	↓

In this scenario, the United States has pulled back from the world-at-large and enjoys cultural and economic unity with Canada, the Caribbean, and Latin America. Collaboration, cross-cultural fertilization, and free trade dominate the western hemisphere in 2028. The middle class has grown in all parts of the Americas. Throughout the region, technology has improved medicine, education, and transportation. Businesses have experienced a growth in both consumer and business-to-business markets. Some transportation programs have devolved to States.



But militant localism, the mixed effectiveness of new and old infrastructure and vehicles, and the strong desire of business to compete in global markets outside the bloc foreshadow problems ahead.

Aerospace is both healthy and technologically advanced, though not as much as in the Global Prosperity scenario. There is more international air travel, primarily north-south, within the Western Hemisphere trading bloc. Improvements to aerospace are also meeting resistance in local communities.

Space travel will be important in 2028 to orbit satellites, for planetary exploration, and for material processing. There should be passenger travel, some transportation of cargo point-to-point, and maybe space tourism. Commercial space transport could be a serious competitor for aviation, and will have to be accommodated in the aerospace system. The line between air and space travel will be blurred as aircraft fly faster and higher, and changed space propulsion systems allow them to use airports.

Despite competition with space travel (or by co-opting it), passenger airlines should be healthy. Videoconferencing may actually expand face-to-face business travel, much like computers and the “paperless” office. Leisure travel, too, will increase, with a similar (60-40) split between business and leisure travel. Increased demand in Latin America means opportunity for U.S. carriers, which become major regional carriers.

Air cargo transport will increase. Just-in-time delivery will vastly expand aviation small package business. In 2028, with more cargo but cargo terrorism, there may be fully automated cargo flights. Security will be an increasing concern. Another change will be more integration of freight transportation networks across air, rail, and truck.

General aviation should do well in this world of 2028, but not without problems. Less expensive, faster, simpler-to-operate general aviation aircraft will help. Many general aviation airports of 30 years ago, however, will be gone. It will be easy to build new general aviation airports, but they will be far away from almost everything. One option may be to move to helicopters and tiltrotors that need less surface space. If so, the airspace system will need to adapt to these new aircraft, especially over cities.

Aircraft manufacturers will build a wide variety of aircraft, from a new generation of general aviation aircraft to new, larger, faster aircraft and possibly suborbital aerospace craft. One major thrust in aircraft manufacture may be to reduce the weight of aircraft. Another will be more electronic capabilities. Pilots in 2028 may well be primarily system monitors, and general aviation pilots may be more like car drivers.

There could be some relocation of aircraft manufacture from North to South America, especially for general aviation. Major airframe manufacturers will tend to build parts in many places and assemble them in one place. The role of existing aircraft will probably drop a notch; 747's will be used for national transportation, 757's for regional travel, and new large aircraft will be the real long distance aircraft.

Airports, by contrast, are likely to grow, with small airports becoming medium and medium becoming large. All the forecasts are for big traffic increases for commercial aviation. A key airport issue is handling new, larger aircraft. The federal role will have decreased; decision-making will be increasingly local, and local communities may resist new infrastructure. There will be new airports, but far from city centers. One possibility to serve the central city is increased reliance on vertical flight, but infrastructure to handle it will cost billions of dollars. Security will also be a concern.

FAA's air traffic control and safety functions could go in several directions. One vision sees more hemispheric, privatized air traffic control (ATC), with safety moving to a hemispheric organization like Eurocontrol. Another vision sees nations wanting significant ATC involvement, leading to every country having its own ATC system it



doesn't want to lose. A third vision is that provision of ATC at low levels will be national, but at high altitudes (commercial), regional. Terminal and tower services could be local, subject to minimum national and international standards.

There is a continued need for some government body to provide safety oversight. Whether oversight is done by a regional authority, ICAO, or FAA is open to question. Another Federal role may be basic research. The private sector, in this scenario, will concentrate on investments that pay off quickly and surely.

Finally, environmental concerns may be mainly local, addressed by metropolitan government and business and with less FAA involvement. Different local standards across the Western Hemisphere will be a problem for airlines.

## AGING AMERICA

<b><i>Dimensions:</i></b>	
<b>U.S. Economy:</b>	↓
<b>Globalization:</b>	↓
<b>Role of Government</b>	↑
<b>Demand for Change In Transportation</b>	↑

The key to this scenario is that aging Boomers retain their political power and use it to gain benefits at the expense of the rest of the economy. The United States is no longer a superpower. In 2028, the nation is bogged down in a stagnant economy. The center of economic gravity has shifted, and investment has migrated abroad. The federal budget operates at a deficit make more severe by generous entitlements to the elderly. Working people do whatever they can to maintain their lifestyles. Who would have guessed, in the euphoria of the turn of the century, that we would

become a nation divided by age and affluence, never able to agree on anything except that government needs to fix it, whatever it is.

While worldwide, aerospace does fairly well in this scenario, U.S. aviation and commercial space transportation may not. Both face a weak U.S. economy, protectionism, and competitive disadvantage compared to Europe and the rest of the world. Business travel will be down as domestic corporations seek to economize and use e-communications and commerce. Leisure travel by the elderly will be up. Partnerships among airlines may be part of how U.S. air carriers respond and gain access to the world market. The number of U.S. airlines may shrink, with some major U.S. airlines in trouble unless they reduce costs. Non-U.S. carriers, however, may have an advantage due to code sharing arrangements, tariffs, and price structures.

Cargo transport by all modes is flat, but air cargo of small packages should increase as people increasingly shop over the Internet. The structure of commercial air cargo transport could emphasize small, local airports that serve local communities.

General aviation, especially for leisure or personal reasons, is greatly diminished. Costs have increased and few will be able to afford flying. There will be fewer general aviation pilots. There should also be more charter travel to assist groups of Seniors portal-to-portal from their homes or communities to leisure destinations and back.

Overall, there should be a large world market for commercial aircraft. Manufacture will be international. Airbus will be huge. Boeing will no longer be purely U.S., so ironically, in a world of trade barriers, there may be less air manufacture protectionism than today. The major markets for new aircraft may be Europe and China. The airplanes manufactured in 2028 will be a lot like today's. Cockpits will be similar. There will still be a demand for pilots – but probably not a shortage. Airlines will train their own pilots. The copilot may be something of a “computer whiz” driver. Even the pilot may not do much actual flying of the aircraft except in emergencies.



Commercial air travel will favor seniors and their leisure travel. First Class service may extend throughout the aircraft. Services and accommodations for seniors and others in airports will increase and include more people movers, “slidewalks” (or even moving seating), better signage, and more amenities. The impact of seniors, however, may be lessening by 2028. The leading edge of the Baby Boom will be in its early 80’s.

“Hub-and-spoke” travel, which mainly aids business travel, may lessen. Leisure travelers may prefer to drive rather than fly 200 miles to a hub. There may, however, be new/expanded hubs and spokes to leisure centers that serve seniors.

Security, and especially cyberterrorism, will be an issue. Terrorists may try downloading viruses into air traffic control and even cockpit computers. Airplanes will need diagnostics and a quick fix, backed up by the ability to fly the airplane without the electronics, or to “wipe” software clean and quickly give control back to the pilot. Security will need to be “end-to-end”, from origin to destination, and not focused on aviation alone. Also, in this world, there may be a push to place security more firmly in Federal hands, for example, through the use of Federal rather than private sector screeners. Air cargo could be another point of greatly increased security vulnerability.

The air traffic control and airport infrastructure will likely be deteriorated in 2028. A weak economy, a general lack of investment, and decline in air transport will lead to this decline in infrastructure. Capacity should be adequate, with congestion not a problem. Air traffic control in 2028 could be in the hands of a Performance-Based Organization (PBO), separate from but controlled by FAA or its successor. Even if the PBO works well, however, it could be dissolved in 2028 in response to deterioration of air travel and aviation infrastructure. The actual control of aircraft could be largely a monitoring function. If ATC is still done by a PBO, with movement to free flight, fewer flights, and less congestion, there will probably be reduced need for controllers.

Safety could still be a role for FAA. The U.S., however, could take a back seat to international organizations such as ICAO and to Europe. If the U.S. fails to keep its standards current, Europe would take the lead in setting standards, with greater U.S. reliance on ICAO for standards that protect and support U.S. needs. ICAO, in turn, could by 2028 work more with regions such as Europe than with individual countries.

FAA, finally, could have a useful R&D role, and a revitalized role to promote aerospace where the economy is in decline and government action is desired to “jump start” it.

## GLOBAL CLIMATE CHANGE

<b><i>Dimensions:</i></b>	
<b>U.S. Economy:</b>	↓
<b>Globalization:</b>	↑
<b>Role of Government</b>	↑
<b>Demand for Change In Transportation</b>	↑

In this scenario, new computer models unlock conclusive proof of global warming, beyond a reasonable doubt. By 2028, there has been thirty years of increasingly severe weather, with the final decade containing catastrophic human and physical destruction. Seventy percent of the world’s population lives in coastal areas, and rising oceans have inundated low-lying areas with flooding and mudslides. The entire world knows that everyone must change to recover the environment, but disasters are now so frequent

that government action to reverse the situation is paramount. Government is strapped.

The year 2028 is a time of diminished expectations. The Crisis will pass, but limitations on consumption will be with us indefinitely. Constrained, expensive



transportation in all modes is a key issue. Reducing emissions through fuel economy or new technology drives up costs. Patterns of housing, work, and travel all become more emissions- efficient. People live near work and only rarely use personal vehicles for individual trips. The Mississippi Valley / Great Lakes basin has become a haven from stressed coastal areas. While economic and transportation resources are constrained, leisure time has increased. Still, there is a 24-hour economy to efficiently use existing assets. There is little money for new capital investment.

Commercial aviation suffers in this world. Load factors, fares, and seating densities are high, and frequencies are low, making air travel an unpleasant luxury. The one bright factor is improved air traffic management, airline scheduling practices, and schedule reliability. Overall travel decreases as communications fill the gap. There is still a need for time critical travel; environmental disaster recovery is a big driver. With lower demand, there are fewer airlines in 2028.

Air cargo has also declined. High costs have cut overnight and other quick shipping. E-commerce has eliminated the need for most overnight document delivery while personal internet shopping tends to focus on local vendors or slower shipment. Competing, emission-efficient land and sea based surface travel cut demand for larger air cargo. Lighter-than-air ships may reappear as an emissions-efficient mode to ship less time sensitive goods. The major remaining advantage of air cargo is speed, continually balanced against the need to fly with fuller loads to be profitable.

Overall aviation demand is reduced, and operations are spread throughout more hours a day as no new airports are built and hub-and-spoke scheduling continues. Many smaller communities lose air service as population concentrates into mega-cities. Road and public transportation to airports is a problem as local demand increases to hub airports. Airport surface operations change to reduce emissions. There is more towing of aircraft and no long taxi queues for departure. Airport authorities monitor emissions and airlines learn to trade credits for reducing ground pollutants to increase air service.

In this *Global Climate Change* world, older aircraft are retired more quickly than current forecasts, but without many replacements. Cockpits have the latest communication, navigation, and surveillance equipment to maximize efficiency and cope with severe weather. There is a push for more efficient airfoils, airframes, engines, and fuel technologies that have been under development (primarily in Europe), but investment capital is in short supply. High-speed rail successfully competes for intercity traffic on a few dense routes, but there is little capital for major new investments in rail, either.

Space transportation in this world continues to develop slowly. Satellites are key to several strategies to save the world. Environmental monitoring, increased and improved communications in lieu of travel, and a universal navigation system to improve transportation efficiency all depend on a reliable, safe, cost effective launch and satellite industry. The commercial space transportation sector has continued to expand, but the importance to saving the world and the high cost of failure means that there is still significant government oversight, particularly in the realm of setting technology standards and ensuring global interoperability of systems.

Business and corporate aviation has shrunk but still exists; time and flexibility are balanced against costs. This equation frequently favors business aviation when the motivation is emergency response and disaster recovery. The passengers tend to be technical specialists and the specialized equipment they need, not corporate executives. The pressures to convert general aviation airports to other commercial functions are reduced with the slower economy. Recreational general aviation





survives, but fuel for piston aircraft is taxed heavily and so the largest general aviation sector is gliders.

Increased government authority is a given in this *Global Climate Change* world as it rallies to save itself. The future of the FAA depends on a policy choice – will there be extensive re-regulation of routes, schedules and services, or will the government rely on market responses to new incentives and taxes? The group of experts assembled at FAA felt that market forces could be very responsive if given the proper set of incentives. Under either alternative, FAA will need to focus on efficient aircraft movements. FAA will complete the transition to Free Flight and ensure that controllers have the tools and expertise to be partners with airline dispatchers and pilots in efficiently moving aircraft.

## GLOBAL PROSPERITY

<b>Dimensions:</b>	
<b>U.S. Economy:</b>	↑
<b>Globalization:</b>	↑
<b>Role of Government</b>	↓
<b>Demand for Change In Transportation</b>	↑

In this 2028 scenario, the business of the world is business. The marketplace is international, with 24-hour commerce and instant communication. The global economy is undergoing unprecedented growth. The world is relatively peaceful but laced with corruption and cybercrime.

In the United States, the federal government has seen many traditional authorities flow away to state and local government, and also to the marketplace, corporations, and international

organizations. The new society has been good; poverty is decreasing, the middle class is growing, and the wealthy are far more wealthy. Some sociologists lament that an entire generation of kids has grown up without much parental contact.

Transportation systems are now built by private consortia that set system standards. This is a fast-paced world of networked global economies and no-holds-barred competition. Government at all levels mainly supports commerce. Even environmental issues have been partly addressed; hybrid cars reduce emissions, and businesses consider pollution a form of waste. The trade-off is little or no free time; the world works 24 hours a day. Everything is done virtually -- business, shopping, vacations. Time is of the essence. Spending a day on an airplane to get to a meeting is rarely done, and vacations are shorter, wired, and within hours of home.

The passenger airlines prosper. Changing demographics change travel patterns. Leisure air travel increases as people with more disposable income seek to get to their leisure destinations fast. Business travel will be tempered by vast increases in e-commerce. Air travel is likely to concentrate on passenger movement, not comfort. Frequency will be important, as will efficient door-to-door movement and minimizing delays at airports. Demand and supply of pilots will be an issue. Airlines will have to self-train additional pilots to meet their needs. Airlines will also need more engineering skills, particularly those associated with monitoring automated systems.

In this scenario a few international mega-carriers will probably control regional service as well. Issues of competition at specific airports and ownership and use of slots are likely to continue. A reduced Federal Government, however, may play a smaller part in fostering competition just as aviation competition pervades the rest of the world.

Air cargo will boom. Cargo will be a 24-hour operation and could affect the airlines' hub-and-spoke systems. Cargo and passenger movements may overlap; the part to fix a machine may be carried by the technician. Cargo airlines may sell capacity for passenger air travel, particularly key banks of time. There are vast infrastructure



## FAA Strategic Plan



needs and questions in the air and on the ground associated with next day delivery. Businesses may have to adapt, for example, to fast deliveries at 3 AM. There may be neighborhood drop-off boxes for fast freight rather than door-to-door delivery.

There could be new types of airlines in 2028. Some will serve mostly business travel with smaller aircraft. Some will serve leisure travel, with aircraft similar in size to today's. Some airlines will mostly serve cargo, and their aircraft will become larger.

Commercial space transportation accelerates, with more space vehicles, including fully reusable vehicles, and some passenger service on sub-orbital flights to distant places on Earth, and perhaps eventually recreational trips to low-orbit hotels or the moon.

General aviation, particularly business aviation and air taxis, will enjoy boom times. Aircraft may be affordable causing the general aviation fleet to grow more vigorously than current expectations. A major challenge would be providing the infrastructure needed to serve that traffic. Another is fuel cost, which is a relatively large portion of the cost of general aviation flying. Will sufficient small general aviation airports continue to exist to serve a major increase in general aviation traffic?

Aircraft manufacturers will do well supplying the expanded aviation system. Indeed, there may be a new aircraft manufacturer by 2028, possibly a car or regional jet manufacturer moving up in size. There could be more of a spread in aircraft sizes. Boeing sees aircraft size going down to provide increased frequencies, especially for business travel. Leisure travel, however, remains less time-sensitive, and may allow fewer, larger aircraft. If enplanements are up and airport capacity is not, larger aircraft will be a necessity. New, larger aircraft will place their own strains on airport infrastructure. To reduce boarding times, there may be more doors and even double-decker loading, requiring changes to airport terminals. Customs processing will have to be speeded up, possibly using pre-screening before the customs check-out. New, larger aircraft are also bigger targets for terrorism.

It is not clear whether today's aircraft will predominate or whether new aircraft, more tailored to tomorrow's markets, will have largely replaced the existing fleet. Capital is available for a substantial investment. A key is how well today's aircraft fit the needs of the 2028 market. Environmental concerns could also spur turnover.

Airport and airspace infrastructure is crucial to meeting increased demand. With a reduced Federal role, communities drive airport infrastructure, and not meeting their environmental needs will constrain airports. Noise is an issue, but possibly solvable.

Air traffic control may be privatized. In Britain, the ATC Corporation, operators, and the government negotiate fees for the next year. If this model is used, there could be premium charges for peak usage or operations in adverse weather. Much could depend on the structure of the ATC Corporation (or even competitive Corporations), ownership, and the structure and concentration in the airline industry. Competition in ATC services could be possible and may be desirable.

Regulation and certification may shift from FAA to ICAO or the industry itself. FAA's regulatory role could be reduced to liaison with international entities, some standard setting, accident investigation, and some oversight, such as approving examiners and designees. FAA and even DOT could be merged into another Department.

Commercial space transportation could see an expanded FAA role. The commercial space transportation industry seeks more FAA involvement today, and an accident could strengthen that demand for safety. Regulation could, however, be done by a global body. Another factor is what happens to NASA in this private sector world.

Finally, there may be a Federal role promoting and funding basic aerospace research.



## B. FAA Support for DOT Strategic Planning

This FAA Strategic Plan is tightly aligned with the Department's mission, vision, goals, and performance measures as expressed in the 2000 DOT Strategic Plan. FAA started its planning process with the objective of aligning FAA's plan with DOT's. FAA relied heavily on the DOT environmental scan and scenario development process and linked FAA and DOT goals in its strategic planning effort. FAA adopted DOT's distinction between mission-based goals and an Organizational Excellence goal (for FAA, enabling goals). FAA's Safety and Security goals support DOT's Safety and National Security goals. FAA's System Efficiency goal supports DOT's Mobility and Economic Growth goals, leaving the DOT as the primary lead on economic growth. FAA's Environmental Responsibility enabling goal supports DOT's Human and Natural Environment goal. FAA has further reinforced the alignment between the two plans in its selection of Corporate Projects. The same projects that support FAA's Strategic Plan goals are included in the annual Performance Agreement between FAA's Administrator and the Secretary of Transportation in support of DOT's Strategic Plan goals.

This FAA Strategic Plan directly supports the 2000 DOT Strategic Plan and the Department's planning process in a number of ways.

FAA's Strategic Plan goals directly support the DOT goals, as follows:

DOT	FAA
<b>SAFETY:</b> Promote public health and safety by working toward the elimination of transportation-related deaths and injuries.	<b>SAFETY:</b> By 2007, reduce the U.S. aviation fatal accident rates by 80 percent from 1996 levels.
<b>MOBILITY:</b> Shape an accessible, affordable, reliable transportation system for all people, goods, and regions.	<b>SYSTEM EFFICIENCY:</b> Provide an aerospace transportation system that meets the needs of users and is efficient in the application of FAA and aerospace resources.
<b>ECONOMIC GROWTH:</b> Support a transportation system that sustains America's economic growth.	<b>GLOBAL LEADERSHIP:</b> Commitment to worldwide improvements.
<b>HUMAN AND NATURAL ENVIRONMENT:</b> Protect and enhance communities and the natural environment affected by transportation.	<b>THE ENVIRONMENT:</b> Our Responsibility. Understanding and reducing environmental impacts.
<b>NATIONAL SECURITY:</b> Ensure the security of the transportation system for the movement of people and goods, and support the National Security Strategy.	<b>SECURITY:</b> Prevent security incidents in the aviation system.
<b>ORGANIZATIONAL EXCELLENCE:</b> Advance the Department's ability to manage for results and innovation.	<b>PEOPLE:</b> Model Work Environment.
	<b>REFORM:</b> Framework for Accomplishment.



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The Federal Aviation Reauthorization Act of 1996 sought to eliminate a dual mandate of regulating safety and promoting aviation by focusing FAA on safety. As a result, the FAA Strategic Plan recognizes the Department's lead on Economic Growth and supports the Department's goal through projects that ensure the safety, security, and efficiency of U.S. aerospace as part of the Nation's and the world's overall transportation system. FAA also supports Economic Growth through partnerships with the public, such as the Garrett A. Morgan Technology and Transportation Futures Program, and through reaffirming FAA's commitment to expand contract opportunities by encouraging and assisting socially and economically disadvantaged business to participate in FAA and FAA-assisted contracts and grants. FAA has implemented a Mentor/Protégé program that encourages our large vendors to mentor such businesses.

FAA's support for the Department's plan goes deeper than the goals. FAA is and has been a full partner in DOT planning. Every project in the FAA Strategic Plan and the FAA Strategic Plan Achievement Supplement has been incorporated into the Administrator's annual Performance Agreement with the Secretary. Every key short-term change FAA will make directly supports a DOT Strategic Plan goal. FAA is committed to the concept of ONE DOT and to addressing aerospace goals in the context of improving the safe, secure, and efficient transportation of American people and goods throughout the United States, around the world, and through space.



## C. Evaluations in Support of FAA Strategic Planning

Numerous evaluations have supported this Strategic Plan and further evaluations are scheduled that will affect future plans. While not all meet the Government Performance and Results Act (GPRA) definition of a program evaluation, all have or will affect this plan and its successors. Summaries of some key evaluations follow.

### Evaluations that have Supported This Strategic Plan

A host of program and other evaluations, most done externally to FAA, have had a strong influence on this Strategic Plan. In particular, the General Accounting Office (GAO) and the DOT Office of the Inspector General (DOTIG or IG) have identified "Management Challenges" for DOT and for FAA. Key evaluations that have influenced this plan include:

#### Management Challenges for FAA

A number of GAO and DOTIG program evaluations, many described below, have made recommendations to improve the management of FAA programs. GAO has presented its recommendations in **OCG-99-13, January 1, 1999. Major Management Challenges and Program Risks: Department of Transportation** and **T-RCED/AIMD-99-94, February 25, 1999, Federal Management: Challenges Facing the Department of Transportation**. DOTIG has most recently summarized its recommendations in **CE-2000-026, Top Twelve Management Issues, Department of Transportation, 12/99**. Some recommendations have already been addressed, and some apply to modes other than FAA. This **Strategic Plan** sets down the framework for addressing the remainder through goals such as Safety and Reform and strategies such as Accident Prevention (Safer Skies) and Financial and Acquisition Reform. The **FAA Strategic Plan Achievement Supplement** includes corporate projects such as the Air Transportation Oversight System (ATOS) and Safety Risk Policy Implementation to address many management challenges. Finally, the FAA Administrator's **Performance Agreement** with the Secretary of Transportation describes how FAA is addressing each management challenge listed below. Those management challenges are:

#### **Safety:**

- Runway Incursions: Execute a Surface Operations Safety Plan Inspection Process.
- Inspection Process: Implement the Air Transportation Oversight System (ATOS).
- Establish Systems to Identify Safety Risks: Develop and Implement Monitoring and Decision Making Tools.
- Code Sharing: Bring Developing Nations Up to ICAO Standards.
- Use of Recorded Flight Data: Advance Proposed Rulemaking.

#### **ATC Modernization:**

- Reassess Plans for Satellite Communications and Navigation: GPS Vulnerability Study.
- Complete NAS System Architecture.
- Human Factors in ATC System Design: Human Factors Engineering.
- Oversight of Software Intensive Contracts: Implement ICM; reach level 3 by December 2001.
- Consider Software Capability of Contractors in Evaluation of Proposals.

#### **Financing of FAA and the ATC:**



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- Adequacy of the Trust Fund: FAA Reauthorization.
- Allocation of General Fund and the Passenger Facility Charge to Operations and Infrastructure: FAA Reauthorization.
- Auditable Cost Accounting System(CAS): CAS Operational in FY 1999?
- Data to Include Parts and Property.
- Unqualified Audit for FY 1999?
- Assess Need for Federal Airport Funding: Collect NPIAS Data?

### ***Infrastructure Needs:***

- Eliminate Prohibited Diversion of Airport Revenue: Develop and Implement Database.
- Review Airport Annual Results: Follow Up As Necessary.

### ***Transportation and Computer Security:***

- Reduce Vulnerability at Airports Security.
- Use New Technologies: Install some 50 Explosives Detection Devices.
- Deploy some 500 Trace Explosives Detection Devices.
- Detect Intrusions to Computer Networks: Develop and Implement a Computer Program.
- Develop an Emergency Response Local Area Network (LAN).
- Increase Training.

### ***Financial Accounting Related to the Chief Financial Officer (CFO) ACT:***

- Plan for FAA Property and Equipment Accounting: Reduce the backlog of property accounting and maintain currency.
- Report Full Cost Using CAS or Other Means: (To be Accomplished by FAA in 1999).
- Relate Costs to Performance Measures: Report on Costs and Operational Data in FY 1999.
- Obtain Unqualified Audit in FY 2000: Document Property Values.
- Document Historical Personal and Real Property Costs.

### ***FAA Acquisition Management:***

- FAA Disciplined Acquisition Process and Culture.
- ATC System Architecture.

### ***Airline Competition:***

- Reduce Operating Barriers.

## **Key Evaluations**

These management challenges and a host of other recommendations affecting all aspects of the aerospace system are included in the following list of policy analyses, program evaluations, and assessments that have affected this plan.

### ***Safer Skies.***

The heart of the Safer Skies initiative is for FAA and the aviation industry to evaluate jointly the recurrent causes of aviation accidents and develop interventions to address them. Areas where evaluations have been completed include cabin safety and controlled flight into terrain.

Evaluation has been completed addressing causal factors related to approach and landing accidents, controlled flight into terrain, and uncontained engine failure. Interventions are moving forward. FAA issued a Notice of Proposed Rulemaking



(NPRM) to mandate Terrain Awareness and Warning Systems (TAWS) on passenger aircraft and is working on the final rule. Concurrently, the major airlines have already begun installation of these systems and Boeing is installing them in its production lines. Other achievements include publication of eight final rules on uncontained engine failures in April 1999. Finally, FAA and the aerospace community developed a plan with near term initiatives to address runway incursions, and virtually all those initiatives have now been completed.

Safer Skies has also addressed cabin safety. Working through Partners in Cabin Safety (PICS), FAA revalidated its causal factor analysis on cabin safety problems. FAA and the airlines then implemented a campaign to provide the public with information to help address problems due to passenger interference with flight, passenger seat belt use, carry-on baggage, and child restraint. These include the "Turbulence Happens" program to encourage seat belt use in aircraft, in support of the overall DOT campaign to encourage seat belt use in all modes of transportation.

### ***Free Flight Phase 1, the initial phase of Free Flight.***

This project seeks to deliver, use, and evaluate the performance and benefits of 5 new core capabilities that will facilitate collaboration between the FAA and system users and support controllers' decisions to approve pilots' requests to fly more optimal routes to their destinations. Progress was made on all 5 capabilities. In particular,

- The **Surface Movement Advisor (SMA)** began providing aircraft arrival information to airlines at Detroit Metro and Philadelphia Airports starting last December.
- **Collaborative Decision-Making (CDM)** provided an initial collaborative routing capability based on an electronic chalkboard. At least one airline has established connections to it and has participated in collaborative routing discussions.
- The **Conflict Probe-User Request Evaluation Tool (URET)** provided two-way probe capability to the Indianapolis and Memphis Air Route Traffic Control Centers (ARTCCs), and controller trials are underway.

### ***Threat Image Projection (TIP).***

As part of its efforts to improve screening of passengers at check points, FAA evaluated a new Screener Proficiency Evaluation and Reporting System (SPEARS) program. A key component is Threat Image Projection (TIP), which electronically inserts artificial images of improvised explosive devices and other threat objects in baggage presented to the screener during the performance of normal duties. FAA's Security Equipment Integrated Product Team performed evaluation activities that demonstrated that the systems performed as intended, and that operators of advanced security equipment could meet high proficiency standards.

Based on that evaluation, FAA published the Certification of Screening Companies Notice of Proposed Rulemaking (NPRM) on January 5, 2000. The rule, when finalized, will provide performance standards for certificating screening companies based on "Threat Image Projection" testing of screeners with simulated weapons and explosive devices. Comments on the NPRM are due in April 2000 and will be analyzed thereafter.

### ***The White House Commission on Aviation Safety and Security.***

The White House Commission, chartered in response to the TWA 800 accident, examined FAA and other Federal programs in support of aviation safety, security, air traffic management, and response to aviation disasters. A total of 57 recommendations were made for changes as fundamental as setting a national goal to



reduce the fatal aviation accident rate by 80 percent in 10 years, making aviation security a national security matter, and accelerating modernization of the FAA's air traffic management system by almost a decade. The Department of Transportation, through FAA, coordinated with other Federal agencies to develop and begin implementing a detailed 10-year plan, with responsibilities, schedules, and funding requirements, to achieve all recommendations. Funding requirements have been included in FAA's budget requests. FAA and other agencies have not waited, however. Some 40 recommendations have already been achieved and more will be in the next year. One striking example is that FAA has adopted the Commission's proposed safety goal in this plan.

### ***Coopers & Lybrand Study of FAA Financing.***

Congress, in the Federal Aviation Authorization Act of 1996, instructed the FAA Administrator to contract with an independent entity to conduct a complete, independent assessment of the financial requirements of FAA through 2002. FAA contracted with Coopers & Lybrand (C&L). C&L agreed with FAA estimates that it would need some \$59 billion from FY 1997 through FY 2002 under existing financing, but found the status quo unsustainable under a balanced budget framework. C&L also pointed out potential cost increases FAA could face, including costs of implementing the White House Commission recommendations.

### ***National Civil Aviation Review Commission (NCARC): Aviation Funding.***

Congress next established NCARC with aviation funding and safety task forces. The funding task force issued a preliminary report in September 1997. Key recommendations were:

- FAA budget treatment must change. Revenues raised from aviation users must be spent for aviation purposes.
- FAA management must become performance-based and operated as a business, with a bottom line and standard business practices such as a cost-accounting system.
- FAA's revenue stream must become cost based, with a cost-based user charge for commercial passenger and cargo air carriers and a continued general aviation fuel tax.
- FAA must do better at managing and controlling ATC operating costs and increase its capital investment in air traffic control modernization.
- Airport capital financing requirements must be met. The projects worthy of funding vastly outnumber the amount of funds available. The Airport Improvement Program should be funded at a minimum of \$2 billion annually over the next 5 years.

The Administration has responded positively to the report. FAA and the Department have developed and continue to develop legislation to improve the agency's financing and organizational structure to fulfill FAA's mission better.

### ***NCARC: Aviation Safety.***

NCARC was given two tasks: To review FAA financing and to evaluate FAA safety programs. The second NCARC task force, on aviation safety, held a public hearing on October 8, 1997. It released its recommendations in a report titled, "Avoiding Aviation





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Gridlock and Reducing the Accident Rate,” on December 12, 1997. The report states that, while the commercial aviation accident rate is extraordinarily low, it has shown little improvement over the last 30 years. A flat accident rate coupled with an expected healthy growth in aviation will mean an increasing number of accidents, an unacceptable result. The accident rate must be reduced significantly through a comprehensive and concerted program by government and industry. The Commission makes four specific recommendations to improve safety:

- FAA and the aviation industry must develop a strategic plan to improve safety, with specific priorities based on objective, quantitative analysis of safety information and data.
- Aviation safety programs in industry and government need to be improved by establishing more effective safety risk management programs.
- FAA safety programs need to become performance oriented.
- Government and industry should expand on their programs to improve aviation safety in other parts of the world.

These recommendations build on previous recommendations, including those of the White House Commission. FAA is already implementing them. This Strategic Plan highlights safety as a key mission goal, and sets as FAA’s target an 80-percent reduction in the fatal accident rate in the next 10 years. It also sets FAA’s priorities for the years ahead-- safety information sharing and analysis, addressing the human factors causes of accidents, and improving surveillance and inspection. A major purpose for FAA’s safety information focus area is to improve safety risk management. The Aircraft Certification Systems Evaluation (ACSEP) is a system specifically developed to conduct evaluations of safety risk, and FAA has a project to target it at areas of greatest potential safety impact. A major purpose of the regulatory reform carried out in the last few years is to produce simple, understandable, performance-based regulations. Global leadership is specifically cited as a key corporate strategy to achieve FAA’s safety goal, and projects such as the Trinational Controlled Flight Into Terrain (CFIT) Committee are intended to improve aviation safety worldwide.

### ***Challenge 2000.***

In 1995 the FAA Administrator charged the Regulation and Certification organization (AVR) and its contractor, Booz-Allen & Hamilton, to find ways FAA can assist the industry move toward zero accidents while meeting the challenge of the year 2000. The purpose of Challenge 2000 is to prepare AVR to meet future workload demands, such as increasing aviation growth and changing technology complexity with limited additional resources, and remedy today’s problems that hinder improvements in aviation systems safety. Four recommendations were made:

- Shift roles and responsibilities between AVR and certain segments of the industry. AVR will move to program-level definition, design, and insertion of industry safety programs. Many air carriers and manufacturers exceed “minimum standards” and are capable of greater self regulation. AVR should shift its resources to other organizations that require more oversight.
- Deploy functional resources through Centers of Excellence (CoE).
- Redesign the rulemaking process to make it more flexible and efficient. Evolve to performance-based regulations wherever appropriate.
- As necessary, resize and restructure AVR for the new mission and operating model.



### ***Accountability Board.***

A team of 12 FAA employees from throughout the agency conducted an extensive, independent evaluation of the first year of the FAA Accountability Board. The Board is intended to provide a quick and informal process of oversight to FAA managers to ensure that allegations of sexual harassment or misconduct are dealt with timely, consistently, and fairly across FAA. The longitudinal study, completed in October 1999, compared the results of the 1997 Employee Attitude Survey to the evaluation team's survey of more than 1,800 FAA employees. The team found a 50 percent reduction in the number of supervisory and non-supervisory employees reporting that sexual harassment is a problem in the FAA workplace. Based in part on those results, the Board's scope is being expanded beyond sexual harassment and misconduct of a sexual nature to include other areas of harassment or discriminatory behavior.

### ***Internal Evaluations of FAA Acquisition Reform: The First, Second, and Third Years (April 1996-March 1999).***

The ARA Evaluation Staff has conducted internal FAA evaluations each of the first 3 years of Acquisition Reform. The first year report found measurable progress in implementing the Acquisition Management System, reduced procurement times, cost savings to industry, and an increase in obligations to small business. It also found a decrease in obligations to socially and economically disadvantaged businesses, problems with the new dispute resolution process, a lack of consistent measurement capability, and minimal progress in establishing a full life-cycle cost perspective.

The second annual evaluation set objectives and evaluated the six program areas of Mission Analysis, Investment Analysis, Baseline Management, the Joint Resources Council, the Integrated Product Development System, and Procurement. The evaluation concluded that the Acquisition Management System (AMS) "Has been in place for two years, and the FAA has made significant progress toward implementing procedures designed to achieve cost and schedule goals. After the second year, the AMS process was moving in the right direction but it was still too early to validate the success of acquisition reform." The evaluation made 14 findings and recommendations ranging for the need for better identifying and prioritizing Mission Need Statements to better organization of responsibilities, better development of baseline data, and better planning for future funding needs.

For the third evaluation, the FAA Acquisition Executive tasked the Program Evaluation Branch to review primarily how the agency is doing since acquisition reform. Overall, the evaluation team found that the agency's procurement efforts were achieving faster awards, were achieving competition, and were meeting small business goals; however, FAA was failing to meet its goals for awarding contracts to small business concerns owned and controlled by socially and economically disadvantaged individuals. In general, the evaluation team found that the agency's program results were on track to achieve success in terms of ensuring programs support the FAA mission, deliver planned product performance results, and meet customer needs, but were not on track to meet cost and schedule baselines approved for individual programs.

### ***Booz-Allen & Hamilton Independent Assessment of Acquisition Reform.***

Booz-Allen & Hamilton, in a study mandated by Congress, found that FAA has made significant progress since adopting the Acquisition Management System (AMS) on April 1, 1996. Specific achievements include overall improvement in the acquisition management process, reducing time to contract awards by more than 50 percent, an



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increase in competitive awards, more awards based on best value, and greater emphasis on the use of COTS/NDI solutions. Booz-Allen & Hamilton also recommended continued management attention and focus by ensuring that the AMS and other reform initiatives are compatible, by clarifying organizational roles and responsibilities and encouraging staff development and training.

### ***GAO Studies of FAA Programs.***

GAO has done many evaluations of FAA programs over the years, including:

- AIMD-99-212, July 30, 1999 (26 pages). *FAA Financial Management: Further Actions Needed to Achieve Asset Accountability.* This report assesses FAA's property, plant, and equipment and inventory asset accountability problems, which were major reasons for including FAA financial management on GAO's high-risk list. GAO discusses (1) the key issues FAA must resolve to achieve accountability over its property, plant, and equipment inventory and (2) whether FAA is taking appropriate actions to resolve these issues promptly. FAA is addressing these issues in its new Cost Accounting System (CAS) and in projects to obtain unqualified audit opinions.
- RCED-99-183, June 1999. *FAA's New Inspection System Offers Promise, but Problems Need to Be Addressed.* This evaluation focused on FAA's program to implement the Air Transportation Oversight System (ATOS). The study found that ATOS is largely responsive to past GAO concerns and that it offers promise to strengthen FAA's inspection process. Key issues raised include lack of clear guidance, staff turnover, continued difficulties with inspectors' technical training and experience, and an overly ambitious implementation schedule. FAA is addressing those issues, and has agreed not to expand the program until problems are resolved.
- RCED-98-118, March 1999. *Year 2000 Computing Crisis: FAA Is Making Progress But Important Challenges Remain.* The report recognized that FAA had a good structure in place to address Y2K issues, but indicated that much remained to be done to meet the government-wide March 31 deadline for compliance. FAA's plans called for full compliance by June 30, and that deadline was met. In the latter half of FY 1999, FAA's focus was on aerospace and transportation community compliance, especially in the international arena. See also T-AIMD-99-49 and 50, from January 1999, and T-AIMD-99-143, 144, and 149, all from April 1999, which address Y2K across the entire Federal Government.
- T-AIMD-99-122, March 1999. *Federal Aviation Administration: Financial Management Issues.* This testimony and report (1) provides a brief history of FAA's financial management weaknesses, (2) discusses the identified fundamental problems that FAA must resolve to achieve financial accountability, and (3) highlights the corrective measures that the agency has under way. FAA is addressing these weaknesses in its new Cost Accounting System (CAS) and in projects to obtain unqualified audit opinions.
- RCED/AIMD-99-88, April 1999. *Air Traffic Control: FAA's Modernization Investment Management Approach Could Be Strengthened.* In light of continuing congressional concerns about FAA's modernization effort, this report addresses the extent to which FAA, through its Acquisition Management System, (1) has established a structured approach for selecting and controlling its investments; (2) incorporates all investments, including those now in operation, in the agency's portfolio; and (3) selects, controls, and evaluates its investments with complete and reliable information. In response, FAA continues to reform its acquisition management system.



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- RCED-98-226, July 1998. Airfield Pavement: Keeping Nation's Runways in Good Condition Could Require Substantially Higher Spending. The GAO found that, while runway pavements are generally in satisfactory condition, the cost to keep runways in good condition during the next 10 years will exceed the average \$162 million historically spent in the Airport Improvement Program for this purpose each year. For fiscal years 1997 and 1998, state and local airports have shown little interest in participating in the pilot program authorized by Congress for pavement maintenance grants at nonprimary airports. In response, FAA has set a Performance Plan goal to maintain in good or fair condition at least 93 percent of runways at all commercial service airports and reliever airports, as well as selected general aviation airports. FAA is working with airport owners through the Airport Improvement Program (AIP) to maintain that level, and reports that in FY 1997 and 1998 the goal was exceeded.
- AIMD-98-155, May 1998. Air Traffic Control: Weak Computer Security Practices Jeopardize Flight Safety. GAO concluded that the Federal Aviation Administration (FAA) was ineffective in all critical areas included in GAO's computer security review--facilities physical security, operational systems information security, future systems modernization security, and management structure and policy implementation. In response, FAA has appointed a Chief Information Officer (CIO) and charged him with responsibility for information security. Information security is a strategy in this Strategic Plan, and FAA has identified corporate projects in both the FAA Strategic Plan Achievement Supplement and the Performance Agreement on both information security and the security of FAA facilities.
- RCED-98-79, April 1998. National Airspace System: Status of Wide Area Augmentation System Project. FAA is developing a network of ground stations and geostationary communications satellites, known as the Wide Area Augmentation System (WAAS), to enhance GPS so that satellite-based navigation can meet those requirements. The Secretary of Transportation reported in February 1998 on the program's status and management. GAO examines whether the Secretary's report provides a complete assessment of FAA's risks in developing the WAAS project. GAO also examines how alternative assumptions would affect WAAS' benefit-cost analysis of January 1998. FA is continuing to address the issues raised by GAO in its WAAS program, both in the FAA Strategic Plan Achievement Supplement and in the Performance Agreement.
- RCED-98-21, October 1997. Aviation Safety: FAA Oversight of Repair Stations Needs Improvement. As this evaluation points out, half of the work involved in maintaining and repairing U.S. commercial aircraft is done by independent repair stations. Records indicate that the Federal Aviation Administration (FAA) is meeting its goal of inspecting repair stations at least once each year, but FAA cannot document how well it has followed up to ensure that the deficiencies found during inspections are corrected. FAA does not tell its inspectors what documentation to keep, and the resulting information gaps undermine the agency's ability to determine how well its inspections are working and to identify and react to trends. These documentation gaps are particularly important because FAA is spending more than \$30 million to develop a reporting system that will use the documentation to make inspection decisions, such as where to apply the agency's inspection resources to address those areas that pose the greatest risk to aviation safety. FAA is addressing these issues under its Certification and Surveillance strategy, with projects that include the Air Transportation Oversight System (ATOS) and Safety Risk Policy Implementation, which seek to improve the targeting of inspections and procedures and training for inspectors.



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- RCED-98-7, November 1997. Human Factors: FAA's Guidance and Oversight of Pilot Crew Resource Management Training Can Be Improved. This report answers the following questions: What are the types and frequency of accidents in which an airline pilot's performance was cited as a contributing factor, including that in which failure to use crew resource management principles was identified? How adequate is FAA's guidance for and oversight of the airlines' implementation of pilot training in crew resource management? FAA is addressing these and similar issues as part of Safer Skies.
- RCED-98-6, February 1998. Aviation Safety: Weaknesses in Inspection and Enforcement Limit FAA in Identifying and Responding to Risks. GAO found that FAA's information on compliance in the aviation industry is incomplete and of limited use in providing early warning of potential risks and in targeting inspection resources to the greatest risks. FAA addresses those issues in this Strategic Plan with a strategy to improve FAA certification and surveillance. Specific projects in the FAA Strategic Plan Achievement Supplement, including the Air Transportation Oversight System (ATOS), seek to improve policies, procedures, and training to address these issues.
- Aviation Security: Implementation of Recommendations Is Under Way, but Completion Will Take Several Years. RCED-98-102, April 1998. This study focused on 8 of the 31 White House Commission security recommendations and found that, while progress had been made on them and 1 has been completed, there have also been delays. FAA finds this a balanced study that recognizes the delays, but also describes the reasons for the delays and recognizes that several of the security recommendations not studied have been completed. FAA is seriously considering the GAO recommendations.
- In addition, GAO has undertaken evaluations related to GPRA issues that help inform this plan. Examples include, GGD-98-44, Managing for Results: Agencies' Annual Performance Plans Can Help Address Strategic Planning Challenges, January 1998; GGD-97-83, Managing for Results: Regulatory Agencies Identified Significant Barriers to Focusing on Results, June 1997; RCED-97-208R, Results Act: Observations on the Department of Transportation's Draft Strategic Plan, July 1997; and GGD-97-56, Managing for Results: Enhancing the Usefulness of GPRA Consultations Between the Executive Branch and Congress, March 1997.

### ***Recent Office of the Inspector General (OIG) Reports***

The DOT OIG has conducted hundreds of audits and studies of FAA programs since 1992. These reports reach all parts of FAA, from air traffic control, system modernization, and research to diversion of airport revenue, sexual harassment, and the Year 2000 computer challenge. A sample of those studies includes:

- FAA's Use of RTCA, Inc. as an Advisory Committee, AV-2000-095, May 15, 2000
- Proposed Rulemaking on Collection Costs Associated with Passenger Facility Charges, FE-2000-087, April 27, 2000
- Aviation Security (multiple studies; most recent was AV-2000-076, April 19, 2000)
- Contract Towers: Observations on FAA's Study of Expanding the Program, AV-2000-079, April 19, 2000
- Key Safety, Modernization, and Financial Issues, AV-2000-070, March 23, 2000
- Improving Aviation Safety, Efficiency and Security: FAA's FY 2000 Request for Research, Engineering, and Development, AV-2000-054, March 15, 2000



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- Fiscal Year 1999 Financial Statements, FE-2000-060, February 29, 2000
- Modernizing the Federal Aviation Administration: Challenges and Solutions, AV-2000-039, February 17, 2000.
- Expanding FAA's Contract Tower Program, AV-99-94, 13 May 1999
- The Year 2000 Technology Challenge. FE-1999-082, 5 April 1999.
- FY 1998 Consolidated Financial Statements. FE-1999-081, 30 March 1999.
- FAA Aviation Safety, AV-99-069, 30 March 1999.
- FAA Air Traffic Control Modernization, AV-99-065, 30 March 1999.
- Aviation Security, AV-98-068, 24 March 1999.
- FAA's Financing and Cost Control, AV-99-066, 22 March 1999.
- Diversion of Airport Revenue: OIG has issued some 58 reports from August 1991 through January 1999 on use of airport revenue at airports around the country.
- Deployment of Explosives Detection Systems, AV-1999-001, 5 October 1998.
- FAA Personnel Reform. AV-1998-214, 30 September 1998
- Dangerous Goods/Cargo Security Program. AV-1998-178, 23 July 1998.
- Security Controls Over Air Courier Shipments. AV-1998-149, 1 June 1998.
- Federal Aviation Administration's Research, Engineering, and Development Program. AV-98-092. 25 March 1998.
- Air Traffic Control Modernization. AV-98-089. 27 March 1998.
- Fiscal Year 1997 Financial Statements. FE-98-098. 25 March 1998.
- Runway Incursion Program. AV-98-075. 9 February 1998.
- The Year 2000 Computer Challenges, FAA. FE-98-068. 23 February 1998.
- Management Advisory Report on Civil Rights Matters (Sexual Harassment) Involving FAA. MA-00-8-022. 21 October 1997.
- Status of FAA's 90-Day Safety Review Recommendations. AV-98-090. 3 March 1998.

Other OIG reports include the audit of the certification and surveillance of domestic and foreign repair stations and "Lessons Learned on the FAA's Process for Assessing the Boeing 777 for Early Extended Range Operations with Two-Engine Airplanes (ETOPS)." While FAA did not agree with all recommendations, it concurred with many. Resulting changes inform FAA regulatory reform efforts, including the project concerning Aircraft Certification Systems Evaluation Program targeting.

### **Scheduled Evaluations**

A number of evaluations are scheduled which will affect FAA planning in the future. They include both program evaluations and evaluations that, while not addressing the effectiveness of the programs themselves, will help programs achieve their goals.

### ***Safer Skies.***

Evaluations in support of Safer Skies will continue into the foreseeable future. Key evaluations and due dates are:



- Commercial aviation – loss of control interventions. (FY 2001)
- Commercial aviation – weather interventions (FY 2003)
- General aviation – aeronautical decision making interventions (FY 2002)
- General aviation – loss of control or survivability interventions (FY 2003)
- Runway Safety – Risk Analysis of Standard Taxi Procedures (FY 2002)
- Runway Safety – System Safety Assessment of the Runway Incursion Information and Evaluation Program (FY 2002)

### ***Free Flight.***

Free Flight Phase 1 evaluations of new capabilities will continue, and Free Flight Phase 2 is being developed. Two of the Phase 1 capabilities are operational and being evaluated. Free Flight evaluations of the remaining Phase 1 capabilities are:

- Traffic Management Advisor (TMA) (FY 2001)
- Passive Final Approach Spacing Tool (pFAST) (FY 2002)
- Conflict Probe – User Request Evaluation Tool (URET) (FY 2002)

### ***Security Screening for Baggage and Passengers.***

Scheduled for completion in the year 2000 is an evaluation of the impact of security screening program elements and initiatives on the detection of improvised explosive devices and weapons. This evaluation will help FAA and the aviation community improve the effectiveness of its baggage and passenger screening.

### ***Acquisition Reform Evaluation.***

The FAA has completed evaluations for the first, second, and third years of the Acquisition Reform program, and will continue annual reviews of the implementation of Acquisition Reform. These are intended to provide continuing feedback to the Administrator on the progress and issues associated with the new process.

### ***Air Taxi Safety Study***

This evaluation, scheduled for the year 2001, will be a comprehensive review of safety programs as they relate to the air taxi segment (unscheduled Part 135) of the aviation industry. It will support the FAA and DOT Safety goals and the FAA Safer Skies initiative on improving general aviation safety (air taxis are general aviation aircraft).

### ***Environmental Review Process Streamlining***

This evaluation, scheduled for the year 2001, will undertake a review of the decision making process for projects having an environmental decision component. The evaluation supports FAA's Environmental Responsibility enabling goal and DOT's Human and Natural Environment goal, and the results should have a positive impact on System Efficiency.

### ***Runway Incursion Study***

This evaluation, scheduled for the year 2002, will evaluate the effectiveness of programs put into place to minimize the probability of runway incursions. The evaluation will support the FAA and DOT Safety goals (and the Performance Goal to reduce runway incursions) and the Safer Skies– Runway Safety initiative.

### ***Operational Errors and Deviation Abatement Study***

This evaluation, scheduled for the year 2003, will assess the effectiveness of agency efforts to minimize the possibility of operational errors (aircraft come too close



together) or deviations (pilots have to change course). The evaluation supports the FAA and DOT Safety goals.

### ***Long Term Capital Leasing Study***

This evaluation, scheduled for the year 2004, will assess the benefits and costs of lease versus ownership for certain FAA capital equipment. The evaluation will support FAA's Reform enabling goal (acquisition reform) and DOT's Organizational Excellence goal.

### ***Second Accountability Board Evaluation***

In July 2000, the focus of the Accountability Board was expanded, based in part on the October 1999 evaluation, from just sexual harassment and misconduct to such behavior based on race, color, religion, gender, sexual orientation, national origin, age, or disability. An evaluation of that expanded program is scheduled to be conducted in January 2002.





### **D. FAA Support of Requirements of the Government Performance and Results Act of 1993 (GPRA)**

The FAA Strategic Plan strongly supports GPRA implementation. FAA meets the requirements of GPRA in support of the Department and because GPRA is a good, commonsense approach to strategic planning and management.

GPRA requires the following from a strategic plan: a comprehensive mission statement; general goals and objectives; a description of how they will be achieved; a description of how performance goals included in the agency Performance Plan relate to the Strategic Plan's goals and objectives; a description of program evaluations that influenced the plan and a schedule for future evaluations; coverage of at least 5 years; consistency with that the agency's Performance Plan; consultation with Congress and those affected by the plan; and drafting by Federal employees.

Based on these requirements and GPRA's legislative history, Congress has developed a set of grading criteria consisting of 10 evaluation factors, each weighted equally and rated on a 10-point scale. The following briefly addresses how this plan addresses each factor.

**Mission Statement:** The FAA's mission statement covers FAA's major functions and presents the ultimate outcome--a safe, secure, efficient aerospace system--that FAA seeks to achieve, working in close cooperation with aerospace worldwide. The mission is firmly grounded in legislation, including Title 49, United States Code; the Commercial Space Launch Act of 1984; and the Federal Aviation Reauthorization Act of 1996 that strengthened FAA's focus on its safety mission.

**General (strategic) goals and objectives:** FAA goes beyond the requirements of GPRA by specifying, for each outcome-oriented, mission-based general goal, how FAA will measure success and what targets FAA has set. FAA considers the goals challenging but achievable and comprehensive in their coverage of major aspects of FAA's mission.

**Strategies to achieve goals:** FAA's mission-based goals are supported by strategies and by specific, measurable projects. Actions FAA will take to achieve its goals are clearly stated, especially in the near term.

**Relationships between general goals and annual performance goals:** FAA's Strategic Plan includes long-range performance goals for each general goal. These performance goals were developed based on performance goals FAA has developed in an annual performance plan that supports the Department's performance plan. FAA's intention is that future-year performance plan goals should tie directly to the longer range, more general performance goals in the Strategic Plan.

**Key external factors:** Appendix A describes key factors that will affect FAA and the aerospace community under 4 different scenarios of the future. It is the product of major efforts by the Department of Transportation working with the entire transportation community, then of FAA working with the aerospace community.

**Program evaluations:** Appendix C directly addresses the evaluations that influenced this plan and a schedule of evaluations that will affect FAA strategic planning in the future. Many of these evaluations are also discussed throughout the text of the plan. Key evaluations that have influenced this plan the most include the White House



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Commission study and the work of National Civil Aviation Review Commission (NCARC).

**Treatment of cross-cutting functions:** This is a plan for aerospace that focuses on FAA and its leadership. Partnership is a major theme and strategy in this Strategic Plan. FAA depends heavily on other Federal agencies to help achieve the aerospace goals set out here. NASA, for example, has more funding for research on aviation that FAA has; FAA could not even begin to meet its research needs without cooperation with NASA, the Department of Defense, and others. The reader is referred to the introduction and the discussion of aerospace involvement under each mission goal.

**Treatment of major management problems:** This plan recognizes a number of challenges facing FAA management, including improving FAA's culture and making its acquisition and regulatory processes more timely and responsive. It specifically recognizes and addresses the so-called "Management Challenges" raised by the General Accounting Office (GAO) and the Department of Transportation Office of the Inspector General (DOTIG). It describes both ongoing and new initiatives to address these problems, including the major acquisition and personnel reform efforts Congress has authorized and FAA is pursuing.

**Data capacity:** This plan addresses FAA's greatest data weakness, the need for a cost-based accounting system. FAA, like the rest of Government, has budgeted and accounted by line items and appropriation codes rather than by programs and fully allocated costs. FAA's budgets are still submitted on a line item basis. FAA, however, is completing work on a cost-based accounting system that is an essential component for FAA to achieve the NCARC recommendation that it become a performance-based organization. FAA also, for the first time, obtained a clean audit opinion for FY 1999.

**Congressional and stakeholder consultations:** The 1998 FAA Strategic Plan was circulated extensively for comment and is available on the Internet. FAA has undertaken additional consultation since then, especially at two Challenger Sessions with the aviation community. Key members of Congress and key committee staffs, along with all segments of the aerospace community including NASA, NTSB, and the Department of Defense, were invited to those sessions.

U.S. Department of Transportation

**Federal Aviation Administration**

Available on the Internet at <http://api.hq.faa.gov/apo120/98sp-fin.pdf>

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